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ABSTRACT

A report is presented of a study undertaken to analyze the future clearinghouse requirements of the Educational Resources Information Center (ERIC) system. Volume 1 describes research on the domains of future ERIC clearinghouses. A taxonomy of education was created, a sample of educational literature categorized by means of it, and 21 domains identified. These were refined to 19, and it is recommended that a clearinghouse be established to correspond to each. Volume 2 deals with an analysis of the content, dissemination, and use of ERIC materials. ERIC records are surveyed and a profile of the system is provided in terms of its users, the materials it processes, and the dissemination of those materials. Volume 3 defines ERIC in terms of its functions and components. The interfaces between components are identified, and the interactions which occur are documented. In order to upgrade the system it is recommended that users be familiarized with ERIC, that the role of the repositories be formalized, and that the timeliness of service be improved. (Author/PB)

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FINAL REPORT

Project No. 7-1057
Contract No. OEC-1-7-071057-5000

RESEARCH AND ANALYSIS TO DEFINE CLEARINGHOUSE REQUIREMENTS FOR THE 1968-71 ERIC SYSTEM

Volume I of III Volumes

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FINAL REPORT

Project No. 7-1057
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RESEARCH AND ANALYSIS TO DEFINE CLEARINGHOUSE REQUIREMENTS FOR THE 1968-71 ERIC SYSTEM

Volume I of III Volumes
Definition of the Scope of Future ERIC Clearinghouses

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Silver Spring, Maryland

January 1969

The research reported herein was performed pursuant to a contract with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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PREFACE

This is Volume I of a three volume final report for contract OEC-1-7-071057-5000. While the entire contract was directed at the analysis of the future clearinghouse requirements of the ERIC system, the results of the various tasks performed under the contract may be used independently and the Office of Education may choose to disseminate the various parts in different manners. The final report has been divided into:

Volume I:	Definition of the Scope of Future ERIC Clearinghouses;
Volume II:	Analysis of the Content, Dissemination and Use of ERIC Materials;
Volume III:	A study of User Access to the ERIC System.

It is hoped that this division will serve to improve the usefulness of the various tasks performed under the contract.

The authors wish to acknowledge the contributions of Harold P. Van Cott and Robert G. Kinkade, who played important roles in the development of the methodology employed in this study. In addition, their contributions were invaluable to the initial development of a provisional taxonomy and the subsequent document analysis. Susan Cohen was involved with the taxonomy creation and all phases of the document classification task. We are also indebted to our consultants for their contributions to the taxonomy development and the evolution of educational domains.

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SUMMARY

Research and analysis was performed to make recommendations for future clearinghouses for the ERIC system. There were three basic steps used to accomplish this task. First, a taxonomy of education was created consisting of 230 categories and sub-categories arranged along 11 dimensions. A sample of the educational literature was next categorized by means of this taxonomy. Frequency counts of the various categories were made, categories were combined and 21 Document Domains were evolved which represented the main areas of the educational literature. In the final step, these Document Domains were subjected to analysis by a panel of experts from various fields of education. Suggestions for modifications of the the domains were made by this panel based on their knowledge of the field of education, the literature, the information needs of educators and the current trends in education. This final analysis resulted in the recommendation of 19 Domains of Education which were felt to represent the main areas of education. The description of each and the rationale for its creation have been detailed and are submitted as recommendations for the future composition of the ERIC chearinghouses.

1. INTRODUCTION

In response to the need to insure that the increasing amount of education-relevant research information is accessible to researchers, to the educational community and to the general public, the U.S. Office of Education developed and implemented the Educational Resources Information Center (ERIC). ERIC is a decentralized system, currently consisting of 19 clearinghouses each reporting to ERIC Central, which is located in Washington, D. C. Each of the individual clearinghouses is responsible for a different domain or major portion of the educational literature. The clearinghouses serve to evaluate literature in the various areas of education, by selecting, abstracting and indexing relevant material for submission to ERIC Central which in turn makes documents, abstracts and indexes available to the users through other components of the ERIC system. The clearinghouses also provide information directly to the users in the form of bibliographies, state-of-the-art papers and newsletters and bulletins. (A more complete analysis of the components of the ERIC system is to be found in Volume III of this series of reports (Bedarf and Korotkin, 1969)).

It is anticipated that as requirements change new clearinghouses will be established and as necessary established clearinghouses will be combined, their scopes redefined, or in some cases eliminated. Such growth and change will continue until each of the major areas of education is represented by a clearinghouse which is concerned with the resources pertinent to that particular domain.

If ERIC is to proceed to develop on such a rational basis, certain information is required by the Office of Education in order to identify and justify the acquisition and establishment of additional clearinghouses. The present study is addressed to that problem.

It was proposed that the recommendations for future clearinghouses be based on the analysis and evaluation of the supply of educational research literature and in consultation with experts in education.

The overall strategy for this task consisted of three basic steps:

(1) A taxonomy of education for the ERIC system was created which could be used to define the various areas of education for the purpose of allowing the ERIC system to be directed most effectively to the various areas of education. This was accomplished with the consultation of educational and information specialists by means of analyzing existing educational trends, the literature and existing taxonomies.

(2) The taxonomy was then used as a tool to categorize a sample of the educational literature and to map out document domains which, in turn, were translated into the scopes of various clearinghouses for the ERIC system.

(3) The taxonomy and the document domains were then presented for comment and discussion at a conference with representatives of the various segments of the educational community. The outcome of this conference was documented and has contributed to the final recommendations for the Domains of Education.

The field of education was mapped into its component domains by the development of the provisional taxonomy of education. The term "provisional" is used here to indicate that such a taxonomy was only the starting point for the establishment or identification of domains or areas of the field of education. This provisional taxonomy was modified as the study progressed based on the additional data that were collected during each step of the analysis. A copy of the modified taxonomy is included for informational purposes only as Appendix C in this report.

The second step, estimating the supply of research literature available in each of the categories of the taxonomy was accomplished by classifying over 5,000 educational research reports. The results of this classification study are presented in detail in Section A of this report.

In considering all relevant inputs for the task of recommending Domains of Education for the ERIC system the representatives of various segments of the educational community had to be included. Analyses of existing areas of education and of the educational literature itself are not able to reflect the trends which are about to emerge in the educational community. The long term objectives which are currently being formalized also are not made known, in general, in the open literature. It is only with the active participants in the various segments of the educational community that such information is to be found. For these reasons and also to provide for an external check of the approach and procedures applied to this task, a conference of educational consultants was planned and carried out.

The contents of Section A of this report and additional relevant material were presented to a panel of experts at the conference for their comment and discussion. The details of the conference and the recommendations derived for finalizing the suggested Domains of Education, are discussed in Section B of this report.

SECTION A

Taxonomy and Document Domains

2. METHOD

The first step towards accomplishing the objectives of the project was to develop a tool which would be effective in estimating the supply of educational information. A "taxonomy" (organized schema) of the field of education, which would consist of domains and categories, each of which could represent the subject matter for a future information clearinghouse, was selected to be the tool. The development of the taxonomy as a tool, and its implementation in the estimation of the supply of educational information, proved to be critical areas of concern.

The development of the taxonomy first entailed defining what characterized any taxonomy. One such characteristic was that the taxonomy should be able to categorize adequately the given objects of study, in this case the field of education. However, the taxonomy need not necessarily be exhaustive in categorizing the field of education in order to categorize it adequately, that is, for the purpose of discovering domains and categories which would be potential information clearinghouses. Moreover, the domains of the taxonomy should contain a minimum amount of 'overlap' and 'underlap', if these domains are to represent major areas of education. The domains, therefore, should be mutually exclusive, such that one domain should contain no subject matter of any other domain.

Before the taxonomy could be developed, what was meant by the 'field of education', the object of study for the taxonomy, also had to be defined. The critical assumption in defining the field of education was that some body of data must represent the field of education. In order to be as exhaustive as possible with respect to this body of data, two sources were selected:

(1) The educational report literature as defined by Research in Education, Education Index, Government Wide Index, and Psychological Abstracts.

(2) The opinions of educational authorities.

The first source would be categorized according to the taxonomy in order to obtain an empirical estimation of the supply of educational information within each domain and category. The authorities of the second source would be contacted for their criticisms and comments on the taxonomy in order to insure the effectiveness of the taxonomy in achieving the project goals.

2.1 Preliminary Taxonomy

Based on the definition of the field of education, on the characteristics of taxonomic structure, and with the advice of consultants in the areas of library science and education, a preliminary taxonomy was created. (See Appendix A for a list of consultants.) Five domains were established (A-Special groups, B-Subjects, C-Institutions, D-Institutionalized functions, and E-Aspects), and each domain was divided into categories felt to be representative of the domain's area. This was developed along the lines of a faceted classification scheme in which each facet represents one particular aspect of the subject with no attempt to provide a place for complex subjects. (Foskett, 1963). The faceted scheme provides the elementary terms, arranged in facets, from which such complex subjects may be assembled. (There were 42 categories in all, and all intended to be mutually exclusive. See Appendix B for the preliminary taxonomy.)

In addition, these five domains were set up in a special order, called a "priority" order. The categories within each domain, however, were not arranged in any particular order. In general, the "priority" order referred to the assumption that a category in domain A would in most likelihood also deal with the subject matter in the domains following it. For example, the definition of the category of the "Mentally Handicapped" in domain "A" would include the content matter taught to the mentally handicapped, the institution in which this occurred, the institutionalized functions, (i.e., teaching techniques), and aspects (such as tests and measurement). A category in domain"D", e.g., teaching techniques, would then include as part of its definition topics that covered techniques not already included in a category of a prior domain. Another way of stating what is meant by priority is as follows: If one were to express a primary interest in a category of a given domain he would be more likely to further express his interest in other domains which are lower than the given domain in the priority list.

A pilot study was conducted to test the feasibility of implementing the taxonomy in the estimation of the supply of educational information. Two thousand documents from the educational report literature were selected from 1964-1966 time period. They were distributed over the report literature in the following approximate proportions: Education Index - 50%, Research in Education - 35%, Government Wide Index - 5%, and Psychological Abstracts - 10%.

The methodology of the pilot study was as follows. Each category in the taxonomy was given a code number (0-9), and each domain was given a code letter (A-E). Two staff members proceeded to extract the key descriptors from a document title, and assigned the corresponding category codes to each key descriptor. Titles were selected because abstracts were not available for all types of documents, and because a larger sample would be studied since titles required less time to code than abstracts. For the purposes of the project, the use of titles was considered sufficient, i.e., this was not an indexing task. Recent work (Katter, 1968) also suggests that the use of titles rather than abstracts or full text results in higher reliability among judges. Since the domains and categories were mutually exclusive, each title could be assigned a maximum of five codes. Data analysis consisted of number counts for the frequency of occurrence of a coded category, and for clusters of categories. Categories and clusters with large frequency counts would be areas for potential information clearinghouses.

Several problems arose in the pilot study. One was the judgmental decisions which the staff members had to make in coding the document titles. If the term "Disadvantaged" was mentioned in a title, which Special group in the taxonomy should be used as the corresponding code? No clear cut category presented itself. Thus, some title descriptors were more specific than the categories in the taxonomy, and were absorbed by a more global concept, which could create misleading results. A second difficulty was that often categories within the same domain were applicable to one title. Consequently, the mutually exclusive nature of the categories and domains would have to be eliminated in the interests of more thorough classifying of titles.

Other problems manifested themselves after the data analysis had been completed. It was found that some categories had no title descriptors assigned to them, while other categories had unwieldly frequency counts by comparison. Thus, refinements of the taxonomy should include collapsing some categories into a more inclusive term, and expanding other categories into more detailed terms.

A further problem is best explained by an example. If two categories were frequently associated, e.g., reading (part of 'communication skills'), and elementary school, then the entire scope of both categories was not necessarily covered. In this example, another part of communication skills, e.g., penmanship, was not associated with elementary school at a significant level. Thus, reading-elementary school would become an area for a potential clearinghouse, while at the same time, the remainder of communication skills would also be an area for a potential clearinghouse. In short, in describing the subject matter of each chearinghouse, it would be important to state not only what areas would be included, but also what areas would not be included.

The data analysis of the pilot study, however, yielded other vital and positive information. With respect to the methodology, the results suggested that the approach was a tenable one, i.e., clusters of categories with significant frequencies were found, as well as significant frequencies for single categories.

2.2 Current Taxonomy

The feedback from the pilot study, in addition to the ideas of more consultants in the areas of library science, education, and information science, led to the development of a taxonomy which would be a far more effective tool in estimating the supply of educational information. Significant refinements in the taxonomy are included below.

The taxonomic structure was changed into the new organizational scheme of four focal fields: "Students", "Content", "Purpose", and "System's Functions". (See Appendix C for the modified taxonomy.) Each of the focal fields consists of dimensions relevant to the field.

The "Student" focal field serves to identify the recipient of some educational process or plan. This is organized in terms of: (1) who the student is, his group affiliation, (2) where he is, his geographic location, and (3) when the education is taking place, his developmental or educational period.

The focal field "Content", specifies what is being communicated in the educational process. This is structured in terms of informal, formal, and professional subject matter.

The third focal field "Purpose", is used to define why the student is being taught the particular content area, that is, for general education purposes, vocational, avocational, rehabilitative, or special education purposes.

The last focal field "System's Functions", details how the educational process is arranged for and achieved. This focal field contains classroom procedures, research techniques, educational administrative functions, and the professional concerns of both the educator and the educational system.

Each dimension, in turn, consists of categories, sub-categories, and exemplars relevant to the dimension. In this hierarchy, dimensions are the largest level, i.e., the most inclusive term; categories are smaller, i.e., more detailed than dimensions, but larger than sub-categories. In turn, sub-categories are more detailed than categories, and finally, exemplars provide examples of the sub-categories. The hierarchical structure of the taxonomy is shown with examples in Table I. The new structure provides far more specificity and scope than the preliminary taxonomy (the new taxonomy contains over 230 terms, whereas the earlier taxonomy contained only 42 terms). With the preliminary taxonomy the difficulties involved in coding documents were usually due to the broadness of the term; the difficulties in coding documents according to the modified structure would be due to the specificity of the

TABLE I

The Hierarchical Structure of the Taxonomy

Components of the Taxonomy	Examples
Focal Field	I Students
Dimension	A Special Group
Category	A40 Disadvantaged
Sub-category	A44 Restricted mobility
Exemplar	Prisoners

terms. This could easily be corrected by combining and collapsing terms after the data analysis had been completed. Combining and collapsing terms would entail combining the sub-categories into the category level, that is, absorbing smaller categories into the more inclusive or broader one.

A second refinement of the taxonomy entails eliminating the priority scheme, and the mutually exclusive nature of the taxonomic terms. The reasons for this refinement have already been presented.

A further refinement was that terms could be added to the taxonomy to insure the completeness of the taxonomy with respect to the educational report literature. This open nature of the system provides the flexibility needed to parallel the changing directions in the field of education itself.

2.3 Document Classification Study

With these refinements of the taxonomy completed, a study was designed for the purpose of estimating the supply of educational information. A description of the subjects, materials and methodology follows.

2.3.1 Subjects

Seven graduate students in the field of library science and one experienced teacher were paid to code the documents. Of the eight, six had majored or had extensive course work in education as undergraduates. Thus, in contrast to the design of the pilot study, the subjects were experienced in both cataloging and in education. Each subject was asked to code about 700 documents.

2.3.2. Materials

The materials used in the collection of the data were of three types -- the literature sources, the taxonomy and coding sheets, and the coder aids. Four literature sources thought to be representative of the mainstream of educational information were Educational Index, Research in Education, the monthly abstract catalog published by OE, Psychological Abstracts ('educational psychology' section only), and the Government Wide Index. Samples from these sources were taken from the last 5 years (1963-67) and resulted in the distributions indicated in Table II.

Sampling was drawn from the issues of the sources indicated in Table III. Each subject coded from all four sources. In Educational Index, random selection of titles consisted of coding the first title per page in each volume. All titles were used from the other sources listed.

TABLE II

Distribution of Document Sources over Years

Source	YEAR					Total	% of sample
	1967	1966	1965	1964	1963		
Education Index	425	515	459	492	555	2444	46.4
Research in Education	326	286	262	161	121	1156	21.9
Psychological Abstracts	234	326	180	217	161	1118	21.2
Government-wide Index	80	163	124	101	80	548	10.4
Total	1965	1290	1025	971	917	5266	----
% of Sample	20.2	24.4	19.4	18.4	17.4	----	100%

TABLE III

Issues Used for Document Sampling

Source	Year of Title	Issue
Ed. Index	1963-67	vol. 13-17
RIE	1967	May, Aug., Nov., Dec. 1967
	1966	Feb., March, Aug., 1967
	1965-63	1956-65 (one source)
Psych. Abs.	1967	Sept., Oct. 1967
	1966	Aug., Oct. 1966, March 1967
	1965	Dec. 1965
	1964	April 1965
	1963	Feb., Aug. 1964
GWI	1963-67	Computer print-out on relevant topics

Each coder was given a copy of the taxonomy and coding sheets. These sheets were modified IBM coding sheets with every 3 columns marked off to facilitate writing down the 3-character codes. The coders used one line per document. Information collected on these sheets were the coder's identification, the date, the document identification number, the document year, and the codes.

Coder aids consisted of visual charts of the taxonomy, which had been printed on poster boards, and hung in the laboratory in which the coders worked. Individual copies of a thesaurus of the terms in the taxonomy arranged in alphabetical order were also available. Both contained the acceptable terms and a three digit code for each term. The basic instructions for the coders were provided in printed form (see Appendix D) and were included in the packet of materials given to each subject. These instructions were given to the subjects verbally by one staff member at the beginning of the task.

2. 3. 3 Methodology

As in the pilot study, the subject's task was to assign a code from the taxonomy to each of the key descriptor in the titles of the educational report literature. Subjects were instructed to code the document titles at the sub-category level, if possible. If the title was not specific enough to be coded at that level, the subjects were to code at the next higher level, i. e., the category level. More than one term from each dimension could be used in coding; in fact, the subjects were instructed to use as many terms as were necessary to adequately code the titles. (Space on the coding sheet provided for 22 terms per title.)

An IBM card was punched for each document and the entire set was subjected to analysis by computer. The output consisted of two basic parts: (1) a frequency count of the documents by year for each of the categories and sub-categories (category and sub-category frequency counts), and (2) the frequency of category and sub-category co-occurrence within documents, (DYAD analysis, see appendix E), e. g., the number of documents which were concerned both with "college" (C42) and "education" (F10).

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3. RESULTS

It was expected that various types of categories would emerge upon analyzing the frequency of use of each category and the interrelations among the categories.

The types of categories which were anticipated were:

(1) Domain Categories - Categories with a relatively high frequency of use, sufficiently high, such that they could stand alone as an area of education.

(2) Partial Domain Categories - Categories which by themselves do not have a sufficient number of documents assigned to them but which when combined with other related categories could form a domain. These combinations could link two or more partial domain categories or add one or more partial domain categories to a domain category.

(3) Modifier Categories - Categories which have moderate to high frequency of use but which do not alone define a unique field of education. These categories would tend to modify other categories and as such would be useful only in coding a document or in describing the scope of a category or domain. These categories would tend to be associated with a variety of other categories rather than specifically with one or two other categories.

(4) Non-descriptive Categories - Categories which have a relatively low frequency of use. This is not to say that the category may not be useful for the field of education; it merely means that as far as the coders and/or the educational literature is concerned the category is not meaningful. Such categories can either be dropped from the taxonomic structure or combined with other categories to which they are hierarchically related.

The sub-category count resulted in frequencies from 0 to 528. The distribution is shown in Figure 1. The median of this distribution is 32 and there is a rather dense clustering of frequencies below 60. Since many of the sub-categories had frequencies representing less than 1% of the total number of documents, the data was subjected to a second level of analysis. This time, the category codes were truncated so that the last digit of the three element alphanumeric code was dropped. Thus, for example, both A11 and A12 became A1. This had the effect of collapsing the data to the category level. Both category frequency counts and a new dyad analysis were made. The category frequency count is presented in Table IV. The frequencies range from 5 for such categories as "The Aged" and "Suburban" to 1412 for "Tests and Measurement".

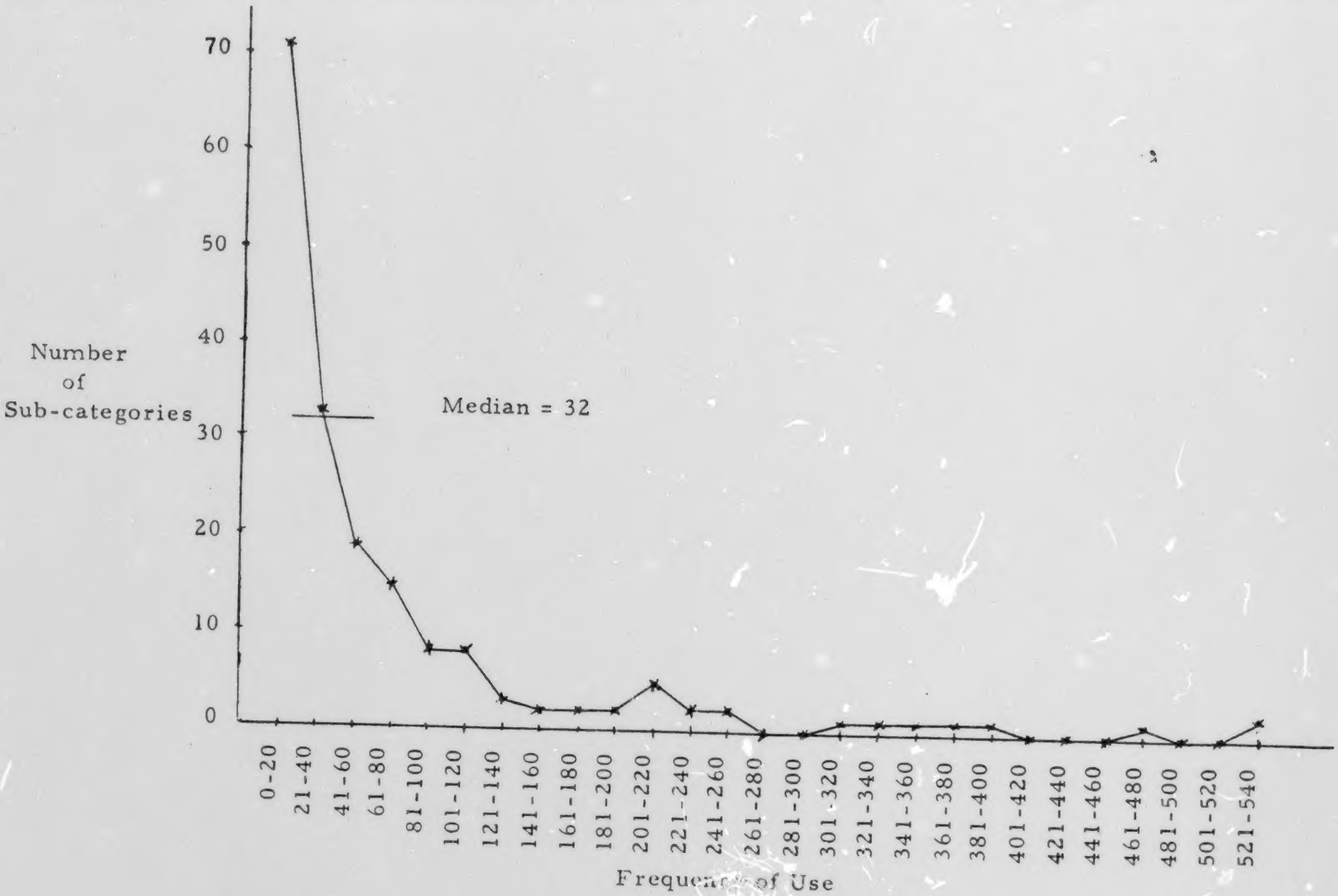

Figure 1. Frequency of Sub-Category Use

(180 Sub-Categories)

TABLE IV

FREQUENCY OF OCCURRENCE OF COLLAPSED CATEGORIES

Category	Frequency	Category	Frequency
A10	196	F10	341
A20	130	F20	46
A30	123	F30	19
A40	243	F40	36
A50	5	F50	240
A60	56	F60	93
A70	70	F70	63
A80	8	F80	120
A90	37		
		G10	528
B10	366	G20	376
B20	524	G30	70
B30	48	G40	43
B40	5	G50	218
B50	15		
		H10	493
C10	83	H20	798
C20	468	H30	104
C30	470	H40	317
C40	619		
C50	107	I10	295
		I20	159
D10	124	I30	1412
D20	121	I40	215
D30	54		
D40	43	J10	516
		J20	316
E10	105	J30	107
E20	333	J40	568
E30	453	J50	129
E40	432	J60	141
E50	165		
E60	467	K10	408
		K20	173
		K30	561

The 59 resulting categories were rank ordered according to frequency of use. This reordering is presented in Table V. The median value of 159 was taken as a cut off point and it was decided that all categories (29) with frequencies below this value were too small to be considered as domain categories. All of these categories were therefore combined with categories having frequencies equal to or greater than the median category.

Several relationships were considered when combining categories. These relationships were:

(1) The dyad relationship of a given category to another, i.e., the number of times that the given category and another were used to code the same document.

(2) The hierarchical relationship of that category to other categories within the same dimension, e.g., H30, Practices and H40 Evaluation are so related.

(3) Logical cross-dimensional relationships between categories, e.g., C40, Higher Education, and F-80, Engineering, which are related in that engineering as a profession is taught in institutions of higher education.

These considerations resulted in a list of thirty-one tentative domains as presented in Table VI. Four categories were not assimilated and were drawn out, at this point, as modifiers. They are J60 - Organizational Practices, B30 - Urban, B50 - Rural, and B40 - Suburban.

Further restructuring was accomplished by using the same techniques. Attention was devoted to combining tentative domains which had some logical affinity for one another, such as Tests and Measurement and Test and Measurement Development. A reduction in the number of domains was sought especially where tentative domains had boarderline frequencies. The result of this second reduction step yielded twenty-one document domains.

Once again some modifiers resulted. These had been given the status of tentative domains but were considered unable to stand alone as document domains and were unable to be combined with any other tentative domain to form a document domain. This second set of modifiers consists of T-6, General Education; T-7, United States; T-22, Experimental Research, and T-30, Analytical Research.

Table VII illustrates the two step formation of each of the twenty-one document domains. The first step transformed the categories into tentative domains and the second yielded the final twenty-one document domains.

TABLE V

RANK ORDER OF CATEGORIES ACCORDING TO FREQUENCY OF USE

Category		Description	Frequency
I	30	Tests and Measurement	1412
H	20	Teaching Aids	798
C	40	Higher Education	619
J	40	Personnel	568
K	30	Field of Education	561
G	10	General Education	528
B	20	United States	524
J	10	Curriculum	516
H	10	Teaching Techniques	493
C	30	Secondary School	470
C	20	Elementary School	468
E	60	English Communication Skills	467
E	30	Social Sciences	453
E	40	Arts and Humanities	432
K	10	Community	408
G	20	Vocational (Ed.)	376
B	10	International	366
F	10	Education (Prof.)	341
E	20	Mathematics and Physical Sciences	333
H	40	Evaluation (classroom)	317
J	20	Services	316
I	10	Experimental Research	295
A	40	Disadvantaged	243
F	50	Military Science	240
G	50	Special Education	218

TABLE V (Continued)

Category	Description	Frequency
I 40	Test & Measurement development	215
A 10	Intellectual Ability	196
K 20	Colleague Relations	173
E 50	Language & Language Arts	165
I 20	Analytical Research	159
J 60	Organizational practices	141
A 20	Physical Handicapped	130
J 50	Educational Standards	129
D 10	Physical Education	124
A 30	Mental Handicapped	123
D 20	Crafts	121
F 80	Engineering	120
C 50	Adult Education	107
J 30	Facilities	107
E 10	Biological Sciences	105
H 30	Practices	104
F 60	Health Related Sciences	93
C 10	Early Childhood Education	83
A 70	Religious Groups	70
G 30	Avocational	70
F 70	Information and Library Sciences	63
A 60	Racial Groups	56
D 30	Business Skills	54
B 30	Urban	48
F 20	Business (Prof.)	46
D 40	Games	43
G 40	Rehabilitative	43

TABLE V(Continued)

Category		Description	Frequency
A	90	Socio-Economic Groups	37
F	40	Agricultural Science	36
F	30	Law	19
B	50	Rural	15
A	80	Nationality	8
A	50	Aged	6
B	40	Suburban	5

TABLE VI

THE CONTENTS OF TENTATIVE DOMAINS

Tentative Domain	Category	Description
T-1	I 30	Tests and Measurement
T-2	H 20	Teaching Aids
	F 70	Information and Library Science
T-3	C 40	Higher Education
	F 80	Engineering
	C 50	Adult Education
	F 60	Health Related Sciences
	F 20	Business
	F 40	Agricultural Science
	F 30	Law
T-4	J 40	Personnel
T-5	K 30	Field of Education
	J 50	Educational Standards
T-6	G 10	General Education
T-7	B 20	United States
T-8	J 10	Curriculum
T-9	H 10	Teaching Techniques
T-10	C 30	Secondary School
T-11	C 20	Elementary School
	C 10	Early Childhood
T-12	E 60	English Communication Skills
T-13	E 30	Social Sciences
T-14	E 40	Arts and Humanities
T-15	K 10	Community
	D 10	Physical Education
	A 70	Religious Groups
	G 30	Avocational

TABLE VI(Continued)

Tentative Domain	Category	Description
T-15	D 40	Games
	A 90	Socio-Economic Groups
	A 50	Aged
T-16	G 20	Vocational (Ed.)
	D 20	Crafts
	D 30	Business Skills
T-17	B 10	International
T-18	F 10	Education (Prof.)
T-19	E 20	Mathematics and Physical Sciences
	E 10	Biological Sciences
T 20	H 40	Evaluation
	H 30	Practices
T-21	J 20	Services (except J21 counselling)
	J 30	Facilities
T-22	I 10	Experimental Research
T-23	A 40	Disadvantaged
	G 40	Rehabilitative
T-24	F 50	Military Science
T-25	G 50	Special Education
	A 20	Physical Handicapped
	A 30	Mental Handicapped
	A 60	Racial Groups
	A 80	Nationality
T-26	I 40	Test & Measurement Development
T-27	A 10	Intellectual Ability
T-28	K 20	Colleague Relations
T-29	E 50	Language and Language Arts
T-30	I 20	Analytical Research
T-31	J 21	Counselling

TABLE VII

THE TWO STEP FORMATION OF DOMAINS OF EDUCATION

Category	Tentative Domain	Document Domain
Tests & Measurement (I 30) - 1412*	Tests & Measurement (T-1)	Tests & Measurement (1) - 1627
Test & Measurement Development (I 40) - 215	Test & Measurement Development (T-26)	
Arts & Humanities (E 40) - 432	Arts & Humanities (T-14)	Arts, Humanities and Social Sciences (2) - 885
Social Sciences (E 30) - 453	Social Sciences (T-13)	
Teaching Techniques (H 10) - 493	Teaching Techniques (T-9)	Teaching Techniques and Practices (3) - 910
Evaluation (H 40) - 317	Teaching Practices (T-20)	
Practices (H 30) - 104		
Field of Education (K 30) - 561	Field of Education (T-5)	Professional Concerns of Education (4) - 863
Educational Standards (J 50) - 129		
Colleague Relations (K 20) - 173	Colleague Relations (T-28)	

[*] The numbers refer to the frequency with which these terms occurred in the classification of the 5,266 documents.

TABLE VII (Continued)

Category	Tentative Domain	Document Domain
Teaching Aids (H 20) - 798	Teaching Aids (T-2)	Teaching Aids (5) - 861
Information and Library Science (F 70) - 63		
Personnel (J 40) - 568	Personnel (T-4)	Teacher Education (6) - 909
Education (Prof) (F 10) - 341	Education (Prof.) (T-18)	
Higher Education (C 40) - 619	Higher Education (T-3)	Higher Education (7) - 1040
Engineering (F 80) - 120		
Adult Education (C 50) - 107		
Health Related Sciences (F 60) - 93		
Business (F 20)-46		
Agricultural Science (F 40)-36		
Law (F 30)-19		

TABLE VII (Continued)

Category	Tentative Domain	Document Domain
Special Education (G 50)-218	Special Education (T-25)	Special Education (8) - 631
Physical Handicapped (A 20)-130		
Mental Handicapped (A 30)-123		
Racial Groups (A 60)-56		
Nationality (A 80)-8		
Intellectual Ability (A 10)-196	Intellectual Ability (T-27)	
Elementary School (C 20)-468	Childhood Education (T-11)	Childhood Education (9) -551
Early Childhood (C 10)-83		
Curriculum (J 10) -516	Curriculum (T-8)	Curriculum (10)-516
Vocational (Ed.) (G 20)-376	Vocational and Technical Education (T-16)	Vocational and Technical Education (11)-551
Crafts (D 20)-121		
Business Skills (D 30)-54		

TABLE VII (Continued)

Category	Tentative Domain	Document Domain
Secondary School (C 30)-470	Secondary School (T-10)	Secondary School (12)-470
English Communication Skills (E 60)-467	English Communication Skills (T-12)	English Communication Skills (13)-467
Community (K 10)-408	The School and The Community (T-14)	The School and The Community (14)-757
Physical Education (D 10)- 124		
Religious Groups (A 70)-70		
Avocational (G 30)-70		
Games (D 40)-43		
Socio-Economic Groups (A 90)-37		
Aged (A 50)-5		
Mathematics and Physical Sciences (E 20)-333	Science Education (T-19)	Science Education (15)-438
Biological Sciences (E 10)-105		
International (B 10)-366	International (T-17)	International (16)-366

TABLE VII (Continued)

Category	Tentative Domain	Document Domain
Disadvantaged (A 40)-243	Disadvantaged (T-23)	Disadvantaged (17)-286
Rehabilitative (G 40)- 43		
Military Science (F 50)-240	Military Science (T-24)	Military Training (18)240
Services (J 20)-316	Counselling (T-31)	Counselling (19)-213
	Other Services (See T-21)	
Services (J 20)-103	Facilities and Services (Except counselling) (T-21)	Facilities (20)-210
Facilities (J 30)-107		
Language and Language Arts (E 50)-165	Language and Language Arts (T-29)	Foreign Languages and Linguistics (21)-165

4. CONCLUSIONS AND RECOMMENDATIONS

These analytical procedures resulted in the formation of twenty-one (21) Document Domains. Table VIII contains a description of the content of each domain, and some remarks regarding the strategy used in the creation of each domain.

These are not the final recommendation for the Domains of Education. This output of logical structuring and empirical verification was then used as an input to a conference of educational consultants the details and recommendations of which are presented in the following section.

TABLE VIII

DESCRIPTION AND RATIONALE FOR DOCUMENT DOMAINS

Description	Rationale
#1-Tests and Measurement	
This domain includes the use of tests and measurement in areas such as achievement, aptitude, attitude, interest, personality, IQ, socio-economic factors, and problem-solving techniques. Also this domain includes the development of tests and measurement, for example, the constructions, validation and standardization of tests.	The "tests and measurement" category had the highest frequency of use (1412) of any of the categories in the taxonomic structure. In addition to the high frequency rationale, many of the documents in this category had minimal associations with other major categories. Thus, "tests and measurement" emerged as one of the few clearly independent domains. Since the documents in the "Development of tests and measurement" category co-occurred with "tests and measurements" 33% of the time, these two categories were combined to form the "tests and measurement" domain.
#2- Arts, Humanities, and Social Science	
This domain contains information concerned with religion, the classics, history, the arts, music English literature, psychology, sociology, anthropology, economics, political science and geography.	The creation of this domain was based on the combination of the "Arts and Humanities" category with the "Social Science" category, both of which had relatively high and approximately equal frequencies. However, 75% of the documents in "Social Science" had to do with psychological testing, which was accounted for by domain #1. Thus, the documents remaining in "Social Science" were combined with the "Arts and Humanities", to which it is hierarchically related in the taxonomy.

TABLE VIII (Continued)

Description	Rationale
#3-Teaching Techniques and Practices	
This domain includes documents related to the methods, practices and techniques used by the educator in the teaching situation. It is concerned with methods for evaluating student performance, grading students, reporting progress and the placing of students into various groups. The practices include the formal planning of teaching and the formal and informal interaction between student and teacher. The techniques of teaching include those found at the individual, small group and classroom level .	The categories for "Techniques", "Practices" and "Evaluations" were combined because of the strength of their associations. The domain was formed by the integration of all of the categories in the "Classroom Function" dimension, except for "Teaching Aids," which had a high enough frequency to be an independent domain. (See Domain #5).
#4-Professional Concerns of Education	
This domain contains documents related to educational standards with respect to both objectives and accreditation; the relations of educators with their colleagues through societies and other means of formal recognition (awards), the philosophy and history of education, comparative education, ethical standard, education's relation to other professions and professional journals.	This domain was created by combining categories from two different dimensions. "Educational Standards" and "Professional Relations with Colleagues" had low frequencies of use, and could not stand alone. Since both were related to the large category of the "Field of Education", they were added to it to form a single, cohesive domain.

TABLE VIII (Continued)

Description	Rationale
#5-Teaching Aids	
This domain includes documents concerned with materials which aid in the educational process such as computer assisted instruction, audio-visual aids, publications, instructional materials, and multi-media facilities. In addition, it includes documents on library science, which are viewed in this context as teaching aids. This domain does not include military training devices, which are related more to the domain of military training. (See Domain #18).	The frequency of the single category of "Teaching Aids" was sufficiently high to indicate an independent domain.
#6-Teacher Education	
This domain includes both the formal university education, and the in-service training of educators. It also includes documents relating to the selection, recruitment, and placement of personnel.	The formal and informal aspects of training of the professional educator were combined to form this domain.
#7-Higher Education	
This domain contains documents related to information on junior colleges, colleges, graduate and professional schools, and adult and continuing education programs.	This is one of the three domains concerned with the developmental aspects of education. (See Domain #9 and #12). It was created by combining the two hierarchically related categories of "Higher Education" and "Adult Education", the latter being too small to stand alone.

TABLE VIII (Continued)

Description	Rationale
#8-Special Education	
This domain contains information on the education of special groups such as the gifted, the retarded, the slow learner, and all physically and mentally handicapped people. It does not contain information on the special group of the Disadvantaged, which constitutes a separate domain. (See Domain #17).	This domain is the result of combining all of the categories in the "Special Group" dimension, with the exception of the "Disadvantaged." Moreover, they were all highly related to the category of "Special Education."
#9-Childhood Education	
This domain includes documents related to both pre-school and elementary school education (through grade 6). The stress is on organizational variables and learner traits. Urban, suburban, and rural settings are included in the domain.	This is the second of the domains concerned with the developmental aspects of education. It was formed by combining the strong "Elementary School" category, with its adjacent and related category of "Early Childhood." The frequency of the latter was not sufficiently high to form a separate domain.
#10-Curriculum	
This domain includes information on all aspects of curriculum development, selection and evaluation at the elementary and secondary school levels. This domain deals not with the curriculum of any one subject matter but emphasizes the techniques, procedures and problems of curriculum development, selection and evaluation, in general. Curricula for higher education purposes are to be handled within the Higher Education domain. (See #7).	This domain was formed from the single category of "Curriculum" which was strong enough to stand alone.

TABLE VIII (Continued)

Description	Rationale
#11-Vocational and Technical Education	
This domain contains information related to semi-skilled and skilled vocational training. It does not include the vocational training of professionals, (See Domain #7), nor the training associated with the military services (See Domain #18).	This domain was created by combining the categories of "Crafts", "Business Skills," "Semi-Skilled", and "Skilled" Vocational Training. None of these was large enough to stand alone, but they shared common associations, and were hierarchically related.
#12-Secondary Education	
This domain includes documents related to secondary schools, with respect to urban, suburban, and rural educational settings. Grades 7-12 are covered by this domain, and the stress is on organizational variables and student traits.	This is the third of the domains concerned with the developmental aspects of education. The high frequency of use of the category of "Secondary Schools" enabled it to become an independent domain.
#13-English Communication Skills	
This domain includes documents related to the reading, writing, speaking, and listening skills associated with the English language.	The frequency of use of the "English Communication Skills" category was sufficiently high to create a domain.

TABLE VIII (Continued)

Description	Rationale
#14-The School and the Community	
The documents in this domain are concerned with the role of the school in the community, and the activities related to that role, e. g., after school activities such as the use of facilities by the PTA and other community organizations, and in school activities such as physical and driver education.	This domain was created by beginning with the "Community" category, which had a high frequency of use, and adding to it several smaller, but related categories.
#15-Science Education	
The information in this domain is related to education in the sciences, including mathematics, the physical sciences, and the biological sciences. This domain does not include the social sciences. (See Domain #2)	The category of "Mathematics and Physical Sciences" was sufficiently large to create a domain. The related category of the "Biological Sciences" was not large enough to stand alone, and was thus combined with the former category to form this domain.
#16-International	
Information in this domain concerns the educational process outside of the United States. It includes the entire field of education as described in the other domains, but is limited to an international setting.	The frequency of use of the "International" category was sufficiently high to create an independent domain.

TABLE VIII (Continued)

Description	Rationale
#17-Disadvantaged	
Information in this domain is concerned with individuals who are socially, economically, and culturally disadvantaged in any geographic setting. It also includes information on individuals with academic problems such as drop-outs and under-achievers.	The formation of this domain was based on the high frequency of the "Disadvantaged" category.
#18-Military Training	
This domain includes information on all training performed in a military setting, and on the techniques and devices associated with this training.	The "Military Science" category was not related to any other category, and had a frequency which was of marginal magnitude. It was sufficient, however, to conditionally establish it as an independent domain.
#19-Counselling	
This domain contains documents on counselling services provided for the students, and the training of counsellors.	The "Counselling" sub-category was large enough, and sufficiently independent to become a unique domain.
#20-Facilities	
This domain includes information on educational facilities such as sites, buildings, equipment, and the services required to support such facilities.	This domain was created by combining the "Facilities" category, and the "Services" category, excluding Counselling. (See Domain #19)

TABLE VIII (Continued)

Description	Rationale
#21-Foreign Languages and Linguistics	
This domain includes information on linguistics and the teaching of all foreign languages.	The category of "Language and Language Arts" was judged independent of their formal content areas. It was used with sufficient frequency to conditionally establish it as a domain.

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SECTION B

ERIC Conference

5. METHOD

A conference with representatives of various segments of the educational community was planned and held in AIR's Washington Office on October 23rd and 24th.

The participants and their affiliations were as follows:

Dr. Lee Burchinal*	U.S. Office of Education
Mr. Thomas Clemens	U.S. Office of Education
Dr. Sanford Glovinsky	Intermediate School District Wayne County (Michigan)
Dr. Willard Jacobson	Columbia University
Dr. Norman Kurland	N. Y. State Education Dept.
Dr. Lester Mann	Research and Information Services for Education Montgomery County (Penna.)
Dr. Gabriel Ofiesh*	Catholic University
Dr. C. Taylor Whittier*	Central Atlantic Regional Educational Laboratory
Dr. George Johnson*	American Institutes for Research
Dr. Robert Kinkade*	American Institutes for Research
Dr. Arthur L. Korotkin	American Institutes for Research
Mr. Erwin Bedarf	American Institutes for Research

*Designates part-time participation at the conference.

Each participant was sent a copy of a report prior to the conference. This report detailed the work performed on the taxonomy, the categorization of documents into domains, and the description of the Document Domains. It essentially presented the information contained in the preceding section of this report.

The conference opened with general remarks by Dr. Burchinal of the Office of Education regarding the background of the ERIC System and the need for the current research for the future planning of the system. Next the A.I.R. project staff reviewed the work performed on the project, explaining their objectives and procedures as detailed in the preceding section. The remainder of the first day of the conference was devoted to discussing the approach to the problem and the reasons for the procedures employed.

The second day was used to discuss, in detail, the taxonomy and the document domains and to obtain comments and recommendations from the conferees regarding the suggested Domains of Education for the ERIC System.

6. RESULTS

6.1 General Findings

The conferees were in general agreement with the approach and the methods used in the study. Attention was focused on each of the Document Domains in turn and comments by the various panel members were discussed. Discussion centered around whether an adequate sampling of the literature had been achieved, whether the category combinations made on the basis of hierarchical and cross-dimensional relationships were logical ones which reflected the real world and whether all of the relevant areas of education had been covered in some way by the suggested domains.

One important consideration in reviewing the categorization of the field of education was that the field of education may be divided up along several dimensions which may or may not parallel one another. Choosing one way of categorizing over another does not necessarily mean that some portion of the field of education will not be categorized but rather that a certain frame of reference or vocabulary has been found to be more related to the literature or agreeable to the educational community. For example, the ERIC conference did not uphold the recommendations for domains for childhood education and secondary education; this does not mean that such subject matter would not be covered by the information system. If these recommendations were to be implemented such headings would become subordinate to the general domains for curriculum, pupil personnel services, instruction, educational management, etc. Indexes created for use in the system would most likely contain such headings. There would not, however, be a separate clearinghouse for these categories.

6.2 Specific Findings

Each of the 21 Document Domains was analyzed by the panel; some were combined, some were divided into smaller subject matter components, and two were eliminated (Childhood Education and Secondary Education). This reorganization of the suggested Document Domains resulted in the formation of 18 Domains of Education. The panel felt it necessary to add only one other Domain of Education, the Characteristics of the Individual, that could not be traced directly to one or more specific Document Domains. Thus, a total of 19 Domains of Education were derived.

These Domains of Education and their relation to the Document Domains from which they were derived are presented in Table IX. Also presented in the same table are the corresponding ERIC Clearinghouses (if any) which existed in April, 1968 and those which are currently in operation.

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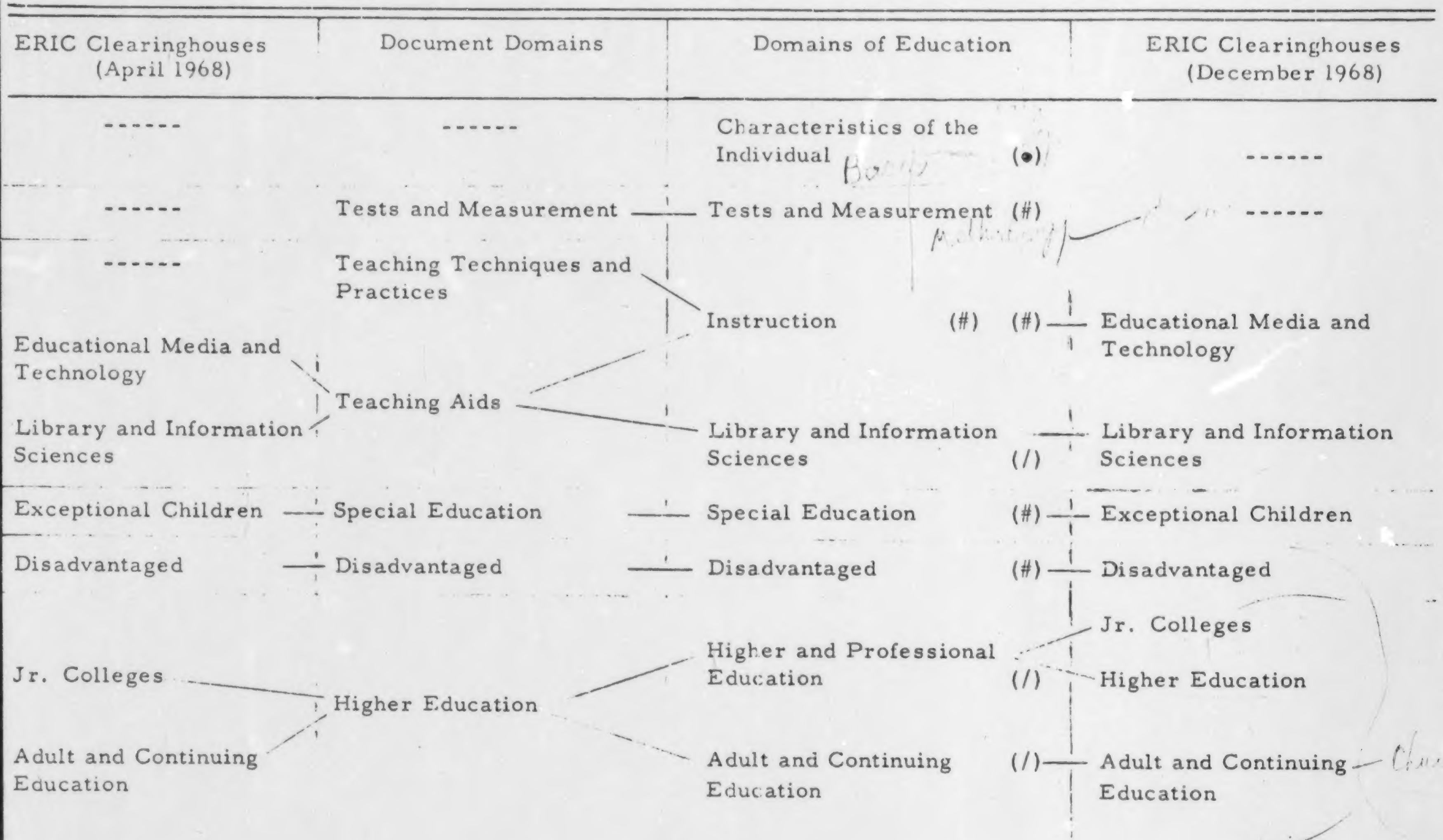
TABLE IX

THE RELATIONSHIPS BETWEEN ERIC CLEARINGHOUSES IN APRIL 1968, THE DOCUMENT DOMAINS, THE DOMAINS OF EDUCATION AND THE CURRENT ERIC CLEARING HOUSES



ERIC Clearinghouses (April 1968)	Document Domains	Domains of Education		ERIC Clearinghouses (December 1968)
------	------	Characteristics of the Individual	(•)	------
------	Tests and Measurement	Tests and Measurement	(#)	------
------	Teaching Techniques and Practices	Instruction (#)	(#)	Educational Media and Technology
Educational Media and Technology	Teaching Aids			
Library and Information Sciences		Library and Information Sciences	(/)	Library and Information Sciences
Exceptional Children	Special Education	Special Education	(#)	Exceptional Children
Disadvantaged	Disadvantaged	Disadvantaged	(#)	Disadvantaged
				Jr. Colleges
Jr. Colleges	Higher Education	Higher and Professional Education	(/)	Higher Education
Adult and Continuing Education		Adult and Continuing Education	(/)	Adult and Continuing Education

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TABLE IX (cont.)

Vocational and Technical Education	Vocational and Technical Education Military Training	Occupational and Technical Education (#) (#)	Vocational and Technical Education
Counseling and Personnel Services	Counseling	Pupil Personnel Services (#) (+)	Counseling and Personnel Services
------	Curriculum	General and Inter-Disciplinary Curriculum (#)	------
------ ------	Arts, Humanities, and Social Sciences International	Curriculum of Arts, Humanities, and Social Sciences (*) (#)	------
Science Education	Science Education	Curriculum of Science Education (*)	Science Education
Teaching of English Reading	English Communication Skills	Curriculum of English Communication Skills (*)	Teaching of English Reading
Teaching of Foreign Languages Linguistics and the Uncommonly Taught Languages	Foreign Languages and Linguistics	Curriculum of Foreign Languages and Linguistics (*)	Teaching of Foreign Languages Linguistics and the Uncommonly Taught Languages

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TABLE IX (cont.)

School Personnel	Teacher Education	Preparation of Educational Personnel (#) (+)	Teacher Education
Educational Administration	Facilities	Educational Management (#) (+)	Educational Administration
Educational Facilities			Educational Facilities
------	Professional Concerns of Education	Professional Concerns of Education (#)	------
------	The School and the Community	Society Roles in Education (#) (+)	------
Early Childhood Education	Childhood Education	------	Early Childhood Education
Rural Education and Small Schools	Secondary Education	------	Rural Education and Small School

The creation of the Domains of Education can be summarized as follows:

	Origin	No. of Domains of Education
(●)	New Domain	1
(#)	Same as a Document Domain	5
(*)	Reemphasis of a Document Domain	3
(/)	Portion of a Document Domain	3
(#)(#)	Combination of two Document Domains	2
(#)(+)	Same as a Document Domain with added emphasis or scope provided by the panel	4
(*)(#)	Reemphasis of one Document Domain plus another Document Domain	1

The symbols preceding each type serve to identify the Domains involved (see Table IX).

A description of each of the Domains of Education is presented in Table X. The rationale used in the creation or acceptance of each domain is also to be found there. The rationale expresses the action taken on the previously created Document Domains and adds any comments which the panel imposed.

TABLE X

Description and Rationale for Domains of Education

Description	Rationale
A. Characteristics of the Individual	
The purpose of this domain is to handle information which pertains to the developmental, learning, attitudinal and personality characteristics of the individual. This includes longitudinal studies and studies on basic learning. The stress here is on the individual as an organism outside of the context of the school or educational institution. The information on attitude and personality characteristics is not to be confused with attitudes and personality in the Tests and Measurement Domain. The stress in the present domain is on describing the characteristics of the individual whereas those in the Tests and Measurement Domain concern the development, use and description of the tools and techniques for performing such assessments.	The consultants felt that the literature which was categorized to form the document domains did not include a representative sampling of the literature on basic learning research and research reflecting the findings in the area of personality and developmental characteristics. It was felt that there should be a domain concerned with the individual in the educational process apart from his interaction within the educational system.
B. Tests and Measurement	
This domain includes the use of tests and measurement in areas such as achievement, aptitude, attitude, interest, personality, IQ, socio-economic factors, and problem-solving techniques. Also, this domain includes the development of tests and measurement, for example, the constructions, validation and standardization of tests.	The document domain of "Tests and Measurement" was retained, unchanged. The panel of consultants agreed that this was an area of concern to educators and is one that will be of even more importance in the next few years.

TABLE X (Continued)

Description	Rationale
C. Instruction	
This domain includes information on teaching techniques, practices, evaluation, teaching aids, and community resources used to aid in instruction. The techniques include those found at the individual, small group and classroom level; practices include the formal planning and informal interaction between student and teacher; evaluation entails methods for evaluating student performance, grading students, reporting progress and the placing of students into various groups. All of these represent techniques which the teacher can bring into the teaching situation. Information on the aids which are available to the educator are also handled within this domain. Examples of these aids are computer assisted instruction (CAI), audio-visual aids, publications, instructional materials, multi-media facilities and the community resources which can serve to educate the student, such as museums, concerts, parks, and field trips.	The consulting panel expressed the feeling that the separate document domains of "Teaching Techniques and Practices" and "Teaching Aids" should not be separated because the techniques and aids are dependent upon one another. Thus, they suggested that the term "Instruction" be used to tie the two together in a more meaningful domain. (NOTE: The categorization of documents, as described before, did indicate that there were a great number of documents which were concerned both with techniques and aids. It was decided at that time, however, that these two areas contained sufficient numbers of documents to be independent domains.)
D. Information and Library Sciences	
The purpose of this domain is to handle information on libraries, librarianship and information systems in general. The libraries covered include public, school and classroom libraries. The scope of this domain includes the various aspects of information systems such as, acquisition, indexing, abstracting, storage and retrieval.	The conferees agreed that library and information systems constituted a separate area of concern, one which is under-going considerable growth. It is an area which receives attention from the student, the practicing educator and the administrator.

TABLE X (Continued)

Description	Rationale
E. Special Education	
This domain contains information on the education of special groups such as the gifted, the retarded, the slow learner, and all physically and mentally handicapped people. It does not contain information on the special group of the Disadvantaged, which constitutes a separate domain. (See Domain F)	The "Special Education" document domain was given the status of a Domain of Education with the comment by the consultants that most of the special education information that was to be considered would be centered around learning disabilities.
F. Disadvantaged	
Information in this domain is concerned with individuals who are socially, economically, and culturally disadvantaged in any geographic setting. It also includes information on individuals with academic problems such as drop outs and under-achievers.	The panel of consultants agreed that this was an area of education which formed a domain. Thus, the document domain of the "Disadvantaged" was converted to a Domain of Education.
G. Higher and Professional Education	
This domain contains information on junior colleges, colleges and graduate and professional programs.	The category of "Higher Education" contained enough documents to stand alone. It was originally combined with "Adult and Continuing Education" which the consultants agreed should stand alone. (See Domain H).
H. Adult and Continuing Education	
This domain contains information on the programs for adult and continuing education, the subject matter offered therein and the special problems which arise in dealing with a wide range of age groups, interests and backgrounds.	Although the document count for this category was rather small the consultants agreed that the individuals being educated in such programs really formed a separate group, apart from higher education, and that information regarding such education should be handled by a separate domain.

TABLE X (Continued)

Description	Rationale
I. Occupational and Technical Education	
This domain includes information related to semi-skilled and skilled vocational training. It handles information on business, industrial and military training, home economics and industrial arts. The educational settings include: industry, trade and business schools and the Job Corps.	The formation of this domain resulted from the combining of the document domain of "Vocational and Technical Education" and the document domain of "Military Training." The consultants considered the purposes of each document domain to be similar in that each was concerned with occupational and technical training. The panel broadened the definition by stressing the inclusion of various educational settings such as industry, trade and business schools and the Job Corpos.
J. Pupil Personnel Services	
This domain is concerned with information which relates to the services provided to students by the educational system outside of the context of the classroom. These include guidance, counselling, and health services.	The document domain of "Counselling" was expanded to include other services provided by educational personnel.
K. General and Inter-Disciplinary Curriculum	
This domain deals with information on curriculum development, selection and evaluation, in general. The emphasis here is on the curriculum for elementary and secondary schools. In addition to handling information on the techniques, procedures and problems of curricula, in general, this domain includes information on inter-disciplinary subject matter such as sex education, driver education, health education, and physical education.	It was suggested by the consultants that several domains be established to handle the curricula of various subject areas and that one be set aside for general problems and those areas of an inter-disciplinary nature. This domain was created by adding the inter-disciplinary subject matter to the previously established document domain of "Curriculum".

TABLE X (Continued)

Description	Rationale
L. Curriculum of Arts, Humanities and Social Sciences	
This domain is concerned with information pertaining to the curriculum development in the areas of religion, the classics, history, philosophy, the performing arts, the visual arts, psychology, sociology, economics, political science, geography, anthropology and education in an international setting.	This is the second domain concerned with curriculum. (See Domain K). It was adapted from the document domain of "Arts, Humanities, and Social Science" which had been created previously.
M. Curriculum of Science Education	
This domain handles curriculum information for the biological, mathematical and physical sciences.	This is the third domain concerned with curriculum (See Domain K). It was adapted from the document domain of "Science Education" which had been created previously.
N. Curriculum of English Communication Skills	
This domain is concerned with information related to curriculum development in the area of reading, writing, speaking and listening skills associated with the English language.	This is the fourth domain concerned with curriculum (see Domain K). It was adapted from the document domain of "English Communication Skills" which had been created previously.
O. Curriculum of Foreign Languages and Linguistics	
This domain includes curriculum information on all non-English languages and language arts and the field of linguistics.	This is the fifth domain concerned with curriculum (see Domain K). It was adapted from the document domain of "Foreign Languages and Linguistics" which had been created previously.

TABLE X (Continued)

Description	Rationale
P. Preparation of Educational Personnel	
This domain covers information pertaining to both the pre-service education (formal university education) and in-service training of educational personnel.	This domain was created by expanding the document domain of "Teacher Education" to include the education of educational administrators and researchers. Information regarding the selection, recruitment, and placement of personnel was placed under the heading of "Educational Management". (see Domain Q)
Q. Educational Management	
Four basic areas of management are covered by this domain: school management, personnel management, fiscal management and information services. School management is concerned about auxiliary school services (such as transportation, custodial, clerical, child care, and cafeteria and lunch program services), facilities, buildings (standards and construction), grounds and equipment. Under personnel management items such as selection, recruitment, placement, benefits, recognition and accreditation are subsumed. Financial management entails budgeting, planning and cost-benefit analysis. The information services are in the form of handling management, technical and public information.	The panel of experts agreed that sufficient management information and the need for such information existed. They also felt the problems and concerns of educational administrators were separate from those of other groups concerned with education. It was thus decided to create a domain to handle the relevant information. The document domain of "Facilities" which reflected information concerning facilities and services was subsumed under the new heading of "Educational Management".

TABLE X (Continued)

Description	Rationale
R. Professional Concerns of Education	
This domain is concerned with information related to educational standards and objectives, colleague relations such as through professional societies, the philosophy and history of education, comparative education, ethical standards, related professions, professional communication (journals) professional goals and the change process in education.	This domain is essentially the same as the document domain "Professional Concerns of Education". The consultants stressed the addition of information concerning the change process in education.
S. Societal Roles in Education	
The information relegated to this domain expresses: how education relates to special interest groups, religious organizations, the community, the PTA, the school board, the local and federal governments; how it handles topics such as desegregation and recreation; and the societal goals and policies of education.	This domain stemmed from the document domain of "The School and the Community". The scope was expanded to include relations with legal and governmental agencies and to include the societal aims of education.

7. CONCLUSIONS AND RECOMMENDATIONS

Based on the analyses presented a new set of ERIC clearinghouses is recommended.

To implement this recommendation, the following would have to be carried out:

(1) Create clearinghouses for:

- -- The Characteristics of the Individual
- -- Tests and Measurement
- -- General and Inter-Disciplinary Curriculum
- -- Curriculum of Arts, Humanities and Social Sciences
- -- Professional Concerns of Education
- -- Societal Roles in Education

(2) Eliminate the current clearinghouses for:

- -- Early Childhood Education
- -- Rural Education and Small Schools

(3) Retain, *essentially*, unchanged the clearinghouses for:

- -- Library and Information Sciences
- -- Exceptional Children (here called Special Education)
- -- Disadvantaged
- -- Adult and Continuing Education
- -- Vocational and Technical Education (here called Occupational and Technical Education)
- -- Counseling and Personnel Services (here called Pupil Personnel Services)

(4) Combine each of the following sets of current clearinghouses into a new clearinghouse:

(a) Jr. Colleges and Higher Education	Higher Education

(b) Educational Administration and Educational Facilities	Educational Management
(c) Teaching of English and Reading	Curriculum of English Communication Skills
(d) Teaching of Foreign Languages and Linguistics and the Uncommonly Taught Languages	Curriculum of Foreign Languages and Linguistics

(5) Alter the scopes of the following clearinghouses, as indicated:

(a) Teacher Education (broaden to include all educational personnel -- Preparation of Educational Personnel)

(b) Educational Media and Technology (broaden to encompass all Instruction including teaching techniques and aids.)

(c) Science Education (emphasize the Curriculum of Science Education.)

The description of each domain and the rationale for its creation found in Table X should be consulted for further definition of the content of each of the proposed Domains of Education.

8. REFERENCES

Bedarf, E. W. and Korotkin, A. L. Research and analysis to define clearinghouse requirements for the 1968-71 ERIC system: Volume III: A study of user access to the ERIC system. Washington, D. C.: American Institutes for Research, 1969. AIR - 7-12-1/69-FR.

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APPENDIX A

LIST OF CONSULTANTS

Consultants Used in Developing the Taxonomy

Consultant	Affiliation	Area of Consultation
Charles M. Proctor, Sr.	Montgomery County, Board of Education	Education
Joseph T. Torallo	Montgomery County, Board of Education	Education
J. Edward Andrews, Jr.	Montgomery County, Board of Education	Education
William R. Porter	Montgomery County, Board of Education	Education
George Usdansky	Montgomery County, Board of Education	Education
Robert Fairthorne	State University of New York at Albany	Library Science
Derek Langridge	University of Maryland	Library Science
Robert Gagne	University of California at Berkeley	Education
Arthur Lumsdaine	University of Washington	Education, Psychology
Jerry S. Kidd	University of Maryland	Information Science

APPENDIX A (Continued)

LIST OF CONSULTANTS

Consultants Invited to the ERIC Conference

Consultant	Affiliation	Area of Consultation
Sanford Glovinsky	Intermediate School District Wayne (Michigan) County	Information Services
Willard Jacobson	Columbia University	Science Education
Norman Kurland	N. Y. State Education Department	Education
Lester Mann	Research and Information Services for Education Montgomery County, Pennsylvania	Information Services
Gabriel Ofiesh	Catholic University Washington, D. C.	Education
C. Taylor Whittier	Central Atlantic Regional Educational Laboratory	Educational Research

APPENDIX B

Original Taxonomy

A Special Groups	B Subjects (Taught)	C Institutions
0 Above Average	0 Comm. Skills (reading, writing, speech letters)	0 Nursery (early childhood)
1 Mentally Handicapped	1 English Language	1 Elementary
2 Physically Handicapped	2 Common Foreign languages	2 Secondary (Jr. High)
3 Socially Handicapped (minorities, underpriv. poor, ghetto dwel.	3 Uncommon Foreign languages	3 Jr. College
4 Delinquents	4 Humanities & Lib. (religion, classics)	4 College and Univ. (grad. & prof.)
5 Dropouts	5 Physical Sciences	5 Further Adult Ed.
	6 Social Sciences (econ. pol., govn.)	6 Vocational (military, govn., industry, peace corps, non-instructional services, welf.)
	7 Technology, Crafts & Motor Skills (phys. ed.)	
	8 Computer Science	

APPENDIX B (cont.)

D	Institutionalized Functions
0	Teaching Aids
1	Teacher Techniques (limited by teacher's own methods)
2	Combination of 0 & 1
3	Libraries
4	Ed. Personnel (Training teachers)
5	Admissions (health)
6	Counselling
7	Admin. Pers. (curriculum dev.)
8	Facilities
9	Admin. at State & Fed. levels

E	Aspects
0	Tests & Mesmt.
1	Emotions (ego, attitudes)
2	Combination of 0 & 1
3	Cognitive Abilities (Acad. achmt., perc., learning).
4	Combination of 0 & 3
5	Sociology (rural)
6	Phil. of Ed. (obj. systems)
7	Comparative ed. (international)
8	History & Biography
9	Research Method

APPENDIX C

Modified Taxonomy

I STUDENTS

A00 Special Groups

- A10 Intellectual ability
  - A11 gifted
  - A12 retarded
  - A13 slow learner
- A20 Physical handicaps
  - A21 vision
  - A22 hearing
  - A23 motor
  - A24 speech
  - A25 chronic health conditions
- A30 Mental handicaps
  - A31 psychological
    - -psychoses
    - -neuroses
    - -autism
    - -emotional disturbances
  - A32 neurological
    - -braindamage
    - -epilepsy
    - -minimally brain damage
- A40 Disadvantaged
  - A41 social
    - -race
    - -religion
    - -nationality
  - A42 economic
  - A43 cultural
  - A44 restricted mobility
    - -prisoners
    - -mental patients
    - -hospital patients
    - -shut-ins
  - A45 high mobility
    - -transients
  - A46 academic
    - -dropouts
    - -remedial needs
    - -underachievers
- A50 Aged
- A60 Race
  - A61 Caucasian
  - A62 Negro
  - A63 Oriental
- A70 Religion
  - A71 Catholicism
  - A72 Protestantism
  - A73 Judaism
  - A74 Islam
- A80 Nationality
  - A81 Puerto Rican
  - A82 Mexican
  - A83 Asian
- A90 Socio-economic
  - A91 Lower class
  - A92 Middle class
  - A93 Upper class

I STUDENTS

B00 Location

- B10 International
- B20 United States
  - B21 New England
    - -Conn., Main., Mass Mass., N.H., R R.I., Vt.
  - B22 Mid-Atlantic
    - -Del., D.C., Md. N.J., N.Y., Pa.
  - B23 Great Lakes
    - -Ind., Mich., Ill., Ohio, Wisc.
  - B24 Plains
    - -Iowa, Kansas, Minn., Mo., Neb., N.Dak., S. Dak.
  - B25 Southeast
    - -Ala., Ark., Fla., Ga., Ky., La., Miss., N.Car., S. Car., Tenn., Va, W.Va.
  - B26 Southwest
    - -Ariz., N.Mex., Okla., Texas
  - B27 Far West & Rocky Mountain
    - -Alaska, Calif., Colo., Hawaii, Idaho, Montana, Nev., Oregon, Utah, Wash., Wyoming
  - B28 Territories
    - -Puerto Rico, Virgin Is.
- B30 Urban
  - B31 Ghetto
  - B32 Downtown
  - B33 Business District
- B40 Suburban
- B50 Rural

C00 Developmental period

- C10 Early childhood
  - C11 infancy
  - C12 pre-school
- C20 Elementary school
  - C21 primary (1 - 3)
  - C22 intermediate (4 - 6)
- C30 Secondary (7 - 12)
- C40 Higher
  - C41 Junior college
  - C42 College
  - C43 graduate school and professional
- C50 Adult

II CONTENT

D00 Informal
- D10 Physical education
  - D11 driver education
  - D12 sports
  - D13 exercise
  - D14 dancing
  - D15 sex education
- D20 Crafts
  - D21 home economics
    - -shop
    - -model building
    - -carpentry
    - -plumbing
- D30 Business skills
  - D31 clerical
    - -typing
    - -stenography
  - D32 Electronic-acounting machine operators
  - D33 bookkeeping
- D40 Games
  - D41 Individual
  - D42 Paired
  - D43 Group

E00 Formal
- E10 Biological Sciences
  - E11 botany
  - E12 zoology
  - E13 physiology
  - E14 anatomy
  - E15 microbiology
- E20 Mathematical and Physical Sciences
  - E21 math
  - E22 chemistry
  - E23 physics
  - E24 earth sciences
    - -geology
    - -oceanography
    - -meterology
  - E25 astronomy
- E30 Social Sciences
  - E31 psychology
  - E32 sociology
  - E33 economics
  - E34 political science
  - E35 geography
  - E36 anthropology
- E40 Arts & Humanities
  - E41 religion
  - E42 classics
  - E43 history
  - E44 art
    - -graphics
    - -sculpture
    - -photography
  - E45 music
    - -voice
    - -band
    - -instruments
  - E46 English literature
    - -drama
    - -poetry
- E50 Language & Language Arts
  - E51 common (includes French, Ger., Ital., Span., Russian, Latin, Greek)
  - E52 uncommon & linguistics (all other languages)
- E60 English communication skills
  - E61 reading
  - E62 writing
  - E63 speaking
  - E64 listening

II CONTENT

F00 Professional
- F10 Education
- F20 Business
  - F21 sales
  - F22 accounting
  - F23 management
- F30 Law
- F40 Agricultural Science
- F50 Military Science
- F60 Health related sciences
  - F61 medicine
  - F62 nursing
  - F63 dentistry
  - F64 pharmacy
- F70 Information & Library Sciences
  - F71 computer programming
  - F72 librarianship
  - F73 information retrieval
  - F74 systems analysis
- F80 Engineering
  - F81 architectural
  - F82 chemical
  - F83 electrical
  - F84 aeronautical

III PURPOSE

G00 Purpose
- G10 General Education
- G20 Vocational
  - G21 semi-skilled
  - G22 skilled
  - G23 professional
- G30 Avocational
- G40 Rehabilitative
- G50 Special Education

IV SYSTEMS FUNCTIONS

H00 Classroom

- H10 Teaching techniques
  - H11 individual
  - H12 classroom
  - H13 group
- H20 Teaching Aids
  - H21 Computer assisted instruction (CAI)
  - H22 Audio-visual
    - -films
    - -TV
    - -broadcast media
  - H23 publication
    - -guides
    - -texts
  - H24 Instructional material
    - -individual learning systems, non-computer
  - H25 Multi-media
    - -language labs
  - H26 Training equipment and simulators
- H30 Practices
  - H31 Planning (weekly plan)
  - H32 Interaction (student-teacher)
- H40 Evaluation
  - H41 grading
  - H42 reporting
  - H43 placement
    - -age
    - -IQ
    - -achievement
    - -aptitude
    - -grouping
    - -instructional level

I00 Research

- I10 Experimental
  - I11 Laboratory
  - I12 Field
- I20 Analytical
  - I21 Statistical
  - I22 Modeling (math)
- I30 Tests and Measurement
  - I31 achievement
  - I32 attitude
  - I33 aptitude
    - -psychomotor
    - -mechanical
    - -perceptual
  - I34 interest
  - I35 personality
  - I36 IQ
  - I37 socio-economic factors
  - I38 problem solving
    - -strategies
    - -decision-making
- I40 Tests & Measurement Development
  - I41 construction
  - I42 validation
  - I43 standardization

IV SYSTEMS FUNCTIONS (Cont)

J00 Administration

- J10 Curriculum
  - J11 development
  - J12 selection
  - J13 evaluation
- J20 Services
  - J21 counselling
  - J22 library & information
  - J23 staff
    - -budget
    - -transportation
    - -clerical
    - -disciplinary
    - -custodial
- J30 Facilities
  - J31 buildings
    - -standards
    - -construction
  - J32 grounds
  - J33 equipment
    - -supplies
    - -office
    - -furniture
- J40 Personnel
  - J41 selection
  - J42 training (in service)
  - J43 recruitment
  - J44 placement
  - J45 benefits
    - -salary
    - -negotiations
    - -retirement
- J50 Education standards
  - J51 objectives
  - J52 accredidation
- J60 Organizational practices
  - J61 School system
  - J62 departments
  - J63 team teaching

K00 Professional

- K10 Community
  - K11 PTA
  - K12 use of facilities
    - -boyscouts
    - -little league
    - -plays
  - K13 Relations
    - -role
    - -interactions
- K20 Colleague
  - K21 societies
  - K22 recognition a
    - -awards
- K30 Field of education
  - K31 Philosophy of education
  - K32 History of education
  - K33 Comparative education
  - K34 Ethical standards
  - K35 Related professions
  - K36 Professional journals
  - K37 Goals

APPENDIX D

Instructions to Coders

1. Introduction to project.

2. Fill in your name and date on the coding sheet.

3. Identify the document:

Education index	EIOvlppp
GWI	AD123456
Bur Rsch	ED 010123
Psych Abstracts	PA123456

4. Identify the year of the document's publication.

5. In coding, be as specific and exhaustive as possible, by coding at the sub-category level whenever possible, and if this cannot be done, by coding at the next higher level. Use ONLY the title to code, i. e., do not use descriptors found in the abstract, but not mentioned in the title.

6. Mark your stopping point on the paper in the front of each source.

7. Record your hours for administrative purposes.

8. Any questions relating to the coding should be referred to the staff. It is important for the purposes of the study that this point be emphasized.

APPENDIX E

Sample of Dyad Analysis

DIADS

	J1	J2	J3	J4	J5	J6	K0	K1	*K2	K3
J2	19.000									
J3	4.000	18.000								
J4	30.000	40.000	8.000							
J5	16.000	9.000	5.000	12.000						
J6	15.000	14.000	5.000	18.000	14.000					
K0	0.0	0.0	0.0	1.000	0.0	0.0				
K1	18.000	53.000	8.000	42.000	10.000	23.000	0.0			
K2	14.000	7.000	0.0	36.000	3.000	4.000	0.0	30.000		
K3	37.000	34.000	10.000	60.000	23.000	17.000	1.000	63.000	35.000	

The entire dyad analysis is on file at the American Institutes for Research.

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FE-24

FINAL REPORT

Project No. 7-1057
Contract No. OEC-1-7-071057-5000

RESEARCH AND ANALYSIS TO DEFINE CLEARINGHOUSE REQUIREMENTS FOR THE 1968-71 ERIC SYSTEM

Volume III of III Volumes

American Institutes for Research
Washington Office
8555 Sixteenth Street
Silver Spring, Maryland 20910

January 1969

U.S. DEPARTMENT OF
HEALTH, EDUCATION AND WELFARE

Office of Education
Bureau of Research

AIR-7-12-1-69-FR-III

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FINAL REPORT

Project No. 7-1057
Contract No. OEC-1-7-071057

RESEARCH AND ANALYSIS TO DEFINE CLEARINGHOUSE REQUIREMENTS FOR THE 1968-71 ERIC SYSTEM

Volume III of III Volumes
A Study of User Access to
the ERIC System

Erwin W. Bedarf
Arthur L. Korotkin

American Institutes for Research
Silver Spring, Maryland

January 1969

The research reported herein was performed pursuant to a contract with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

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PREFACE

This is Volume I of a three volume final report for contract OEC-1-7-071057-500. While the entire contract was directed at the analysis of the future clearinghouse requirements of the ERIC system, the results of the various tasks performed under the contract may be used independently and the Office of Education may choose to disseminate the various parts in different manners. The final report has been divided into:

Volume I:	Definition of the Scope of Future ERIC Clearinghouses;
Volume II:	Analysis of the Content, Dissemination and Use of ERIC Materials;
Volume III:	A Study of User Access to the ERIC System.

It is hoped that this division will serve to improve the usefulness of the various tasks performed under the contract.

The authors wish to acknowledge the cooperation of all those who cooperated in the surveys conducted during this phase of the contract.

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SUMMARY

The ERIC system was defined in terms of its functions and components. The interfaces between these components were identified and several studies were performed to document the interactions which constitute these interfaces. These studies took the form of telephone contact with repository (organizations holding ERIC materials which serve local users) personnel, an ERIC user log, and an evaluation of materials prepared by the ERIC Clearinghouses. Recommendations for system improvement were made based on these investigations. They cover familiarizing the user with the ERIC system, formalizing the role of the repositories and improving the timeliness of service.

I. INTRODUCTION

The ERIC system permits and encourages communication from its users in the form of document requests, bibliographic requests and special searches. Communication also takes place at various levels between the various formal components of the system. In order to make the system more responsive, communication about user needs should also take place. Much attention in recent years has been given to the study of such needs. (Menzel, 1966). One of the more important requirements that a user has is the need for adequate information about gaining access to an established system. There is little merit in a system which can satisfy the user's subject matter needs but does not give him sufficient information to enter and use the system to retrieve this information.

As a result of interpreting the data collected and reported in Volume II of this report (Bedarf and Korotkin, 1969) several questions arose about how the user of ERIC materials gains access to the system.

There are two general types of users which can be said to make use of ERIC materials. One is the institutional user in this report referred to as a repository and the other is the individual user. The term repository as used here refers to an organization or a department within an organization or institution which handles educational information for a group of local individual users. Repositories may be found serving local school districts, state departments of education, regional educational laboratories, institutions of higher education, and private industry. These repositories have standing orders for ERIC microfiche and are subscribers to Research in Education. Many of them hold ERIC microfiche collections and they have the appropriate equipment for reading microfiche and printing hard copy. Thus, as far as ERIC materials are concerned, (repositories also hold non ERIC materials) they are probably the best equipped-non-government sources with the exception of the ERIC clearinghouses.

The concern of the study reported in this volume is for the individual user's access to the ERIC system and its materials both through the repository and by direct contact with the formal components of the system. Can the user enter the system through a single source, the one-stop information center (U.S. Office of Education, 1968)? Does the user have direct communication with the various components of the system or does he want or need such contact? Are there services which the system does not now provide which, if instituted, would lead to a more comprehensive information system? Are the various components of the system prepared to give the user appropriate access information? How can user access to the system be improved?

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This study was undertaken to attempt to answer some of these general questions, as well as others. The basic approach was first to define the system in terms of its components; secondly, to define the actual and potential interactions between these components by analyzing (a) the materials prepared for dissemination by the clearinghouses, sample repositories, EDRS and ERIC central, (b) the reported interface between the users and the formal parts of the system, and (c) the misunderstandings and/or problems that users have reported in using the system. The third step was to outline problem areas in the system and finally, to suggest methods for further study and analysis along with recommendations for immediate improvement in some of these areas.

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2. METHOD

Several methods of investigation were employed in gathering data for this study. Each of these may be considered a task which yielded data that could be used independently. The strategy used here, however, is to present all of the data collected and then to draw on appropriate findings to pose and answer questions on user access.

The various tasks performed were as follows:

2.1 Flowchart of the ERIC system

Using descriptive literature (Marron and Burchinal 1969, and Marron, 1968) and the knowledge of the ERIC system gained while performing other tasks connected with the project, several staff members defined the functions of the system, defined the formal and informal components of the system, allocated the various functions to the system's components, and defined the actual and potential interfaces between the components in fulfilling the various functions of the system.

2.2 Telephone Survey of Repository Personnel

Twenty-three of the repositories contacted in an earlier telephone survey (Bedarf and Korotkin, 1969) were again contacted. These consisted of repositories from seven local school districts, five state departments of education, three regional education laboratories, seven institutions of higher education, and one industrial organization. These are identified in Appendix A.

The information specialist previously interviewed was asked to answer a series of questions on interfacing with the ERIC system and how his users interface with his repository. The interviewers structured their questions on the basis of a prepared outline which is presented in Appendix B. The interviewee was initially made aware of the formal components of the ERIC system and then was asked questions concerning 1) unrequested materials or information received from the formal components of ERIC, 2) requested materials from the formal components of ERIC, 3) products which would make access to the system easier, 4) information about system changes or innovations, 5) materials used to inform users about access to the system, 6) problems or misunderstandings in the use of the system, 7) suggestions for system improvement, and 8) statistics if any on the use of ERIC materials.

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2.3 ERIC User Log

A log sheet was created for the purpose of questioning individual users of ERIC materials at various repositories. The log informed the user of the purpose of the study and asked each user to indicate: 1) his affiliation, 2) his occupation, 3) the subject(s) about which he was seeking information, 4) the form of information he was seeking, 5) why he chose to refer to ERIC materials, 6) what ERIC materials he used in seeking his desired product, 7) whether he found the desired product, and 8) how acceptable the system and its materials were to him, particularly, with respect to access to the system.

Thirty such log sheets were bound in each of twenty logs which were sent to selected repositories along with a cover letter explaining the use of the log. The repository personnel were asked to display the log in a prominent place for a one week period and then to return it. Appendix C contains a copy of a log sheet, a cover letter and a list of the repositories (17) which returned the log after the survey period.

2.4 Evaluation of Clearinghouse Materials

Each of the 18 directors of the ERIC clearinghouses, in existence in September 1968, were sent a letter explaining the purpose of the study and requesting copies of those materials which the clearinghouses had prepared to inform their users of their services. Appendix D contains a copy of this letter.

The materials collected were subjected to analysis to determine a) the depth of coverage in introducing the user to the basic components of the system, (b) the coverage of special services provided by the arious components of the system and (c) the ease and extent to which user may gain access to the system with the aid of the materials, e., how well the various services and procedures are described.

3. RESULTS

The materials presented in the section represent the results of the analyses conducted during the final phase of the contract. Each analysis is numbered and titled similarly to Section 2 to facilitate cross references between the methods employed and the results.

3.1 Flowchart of the ERIC system

Typical flowcharts of the ERIC system (Marron and Burchinal, 1967 and Marron, 1968) show the flow of abstracts and documents from some point of origin of production, through a processor, to the ultimate user. This type of flowchart shows the flow of user oriented information or documents. These, however, are not the only information or communication which flows within the system; nor does the diagram represent the only direction in which information or communication flows. In addition, these flow charts do not represent all of the components of the system (some informal) as envisioned by the present investigators. A modified version of the existing flowchart (Marron, 1968) is presented in Figure 1.

The ERIC system consists of four basic functions with respect to the handling of its materials (documents or information).

(A) Material Production - The creation of original material for entry into the system or for use by the system.

(B) Material Processing - The selection, indexing, abstracting, printing and storage of documents for the system.

(C) Material Dissemination - The distribution of documents from one component of the system to another.

(D) Material Use - The obtaining of documents for the purpose of utilizing their contents.

The ERIC system is visualized as consisting of eight basic components. Five of these are termed formal components and are, generally, either government agencies or government contractors. These are:

(A) ERIC central which is part of the Office of Education, Bureau of Research.

B) The ERIC clearinghouses - which are OE funded organizations.

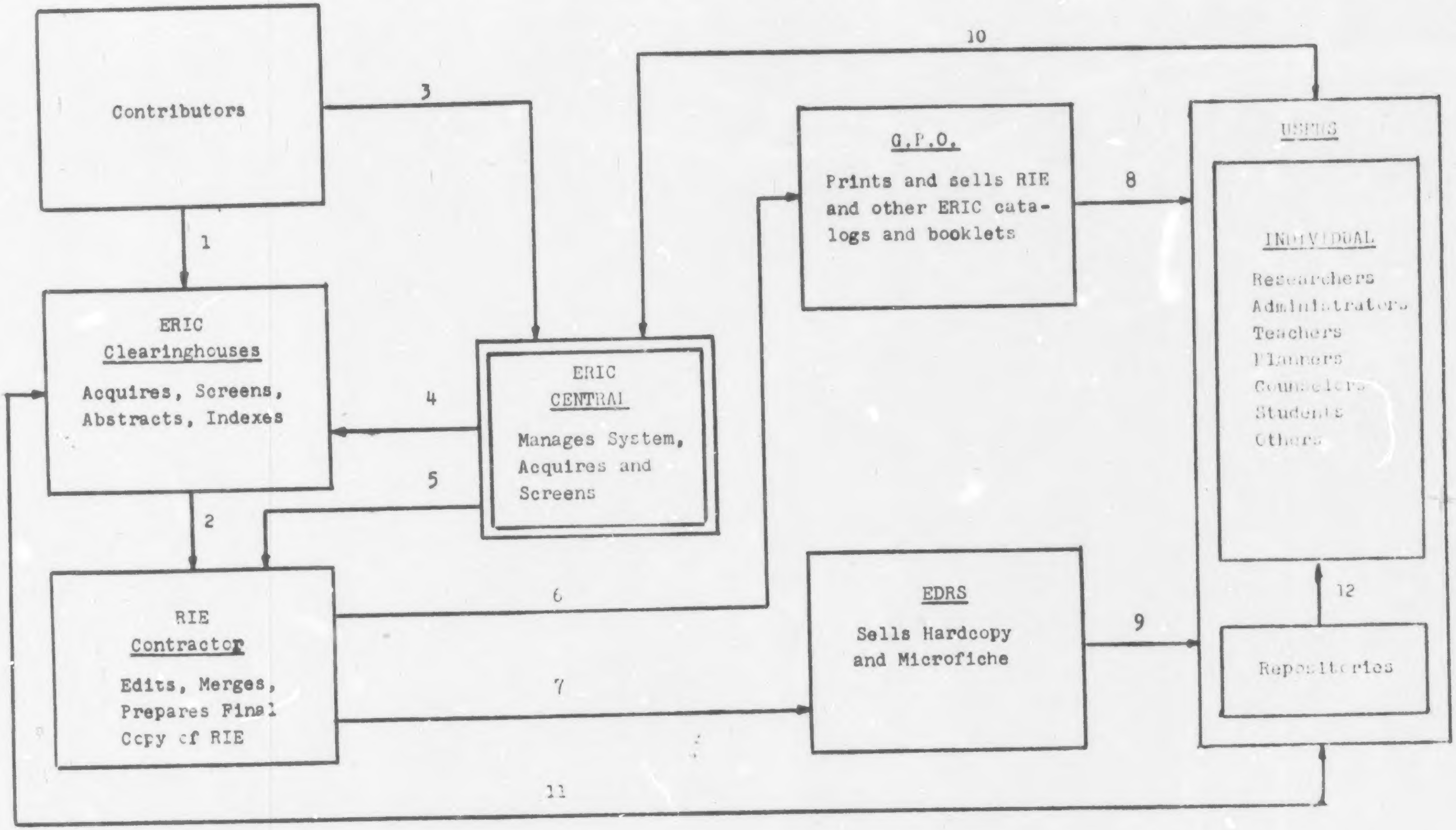
Contributors
1
3
ERIC
Clearinghouses
Acquires, Screens, Abstracts, Indexes
4
5
ERIC
CENTRAL
Manages System, Acquires and Screens
2
RIE
Contractor
Edits, Merges, Prepares Final Copy of RIE
6
7
10
G.P.O.
Prints and sells RIE and other ERIC catalogs and booklets
8
EDRS
Sells Hardcopy and Microfiche
9
USERS
INDIVIDUAL
Researchers
Administrators
Teachers
Planners
Counselors
Students
Others
12
Repositories
11

Fig. 1 Flowchart of the ERIC System (Adapted from Marron, 1968)

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(C) The ERIC Document Reproduction Service (EDRS) - which is currently run by National Cash Register Co. and is under contract to the Office of Educlation.

(D) The Government Printing Office - which is responsible for the printing of RIE and other ERIC materials such as catalogues, brochures, etc.

(E) The Research in Education Contractor - North American Rockwell which is responsible for the preparation of RIE.

The informal components of the system include:

(A) The contributors of documents.

(B) The repositories which represent institutional users of the system's materials.

(C) The individual users of the system's materials.

The various functions of the system are performed by one or more of the components of the system. Table I indicates which of the components performs or participates in each of the functions.

Referring again to Figure 1, the following interfaces can be identified:

1. Contributor/Clearinghouse - this interface may be either active or passive on the part of the contributor. Materials may be directly submitted by the author or requested from him. The Clearinghouse staff may, on the other hand identify and/or acquire materials from various sources without author participation.

2. Clearinghouse/RIE Contractor - Each clearinghouse, acquires screens, abstracts and indexes material within its assigned domain. The documents bibliographic citations, index terms and abstracts from all of the clearinghouses and are forwarded to the RIE Contractor.

3. Contributor/ERIC Central - This interface parallels #1 except ERIC Central serves the acquisition and screening function.

4. ERIC Central/Clearinghouse - Material acquired and screened by ERIC Central are forwarded to the appropriate Clearinghouse for further processing.

TABLE I

The Allocation of Various System Functions to the System's Components

Material Production	Material Processing	Material Dissemination	Material Use
Contributors	ERIC Central	EDRS	ERIC Clearinghouses
ERIC Clearinghouses	ERIC Clearinghouses	ERIC Clearinghouses	Repositories
	RIE Contractor	Gov't Printing Office	Individuals
		Repositories	

5. ERIC Central/RIE Contractor - This interface mainly consists of management control of RIE format and content. In addition, ERIC Central inputs systems and management information for monthly publication.

6. RIE Contractor/GPO - The RIE Contractor edits and merges all of the RIE material and prepares magnetic tapes. A copy of the tape is sent to GPO for the publication of RIE.

7. RIE Contractor/EDRS - The RIE Contractor forwards to EDRS copies of the original documents for microfilming.

8. GPO/User - The Government Printing Office prints and sells RIE on a monthly basis. It may be purchased on an individual issue or subscription basis. They also sell catalogs and booklets describing ERIC holdings and the use of the system.

9. EDRS/User - EDRS prepares microfiche of the original documents and sells microfiche and hard copy (prepared from microfiche) to all who wish to purchase them. Standing orders and back orders for collections are available for purchase on microfiche.

10. ERIC Central/User - ERIC Central serves a dual role with regard to the user. They serve a referral function by which users are directed to the appropriate ERIC component for handling any request or problem. They also disseminate general information (e.g. flyers, brochures, etc.) to users. They prepare other materials (e.g. "How to Use ERIC") which are sold through GPO.

11. Clearinghouse/User - The clearinghouses provide services to the user which supplement those provided by GPO and EDRS. They prepare and disseminate, either by request or on a routine basis, such products as selected bibliographies, critical reviews and state-of-the-art papers, and special reports.

12. Repository/Individual User - The Repository represents a resource by which the individual user may gain access to all other components of the ERIC system. As can be seen in the description of the other user interfaces (#8-11), an individual user must interface with each of the other components individually in order to obtain the unique products available through them. At the repository all of the products and services of the ERIC system, along with other resources (books, journals and services), are available to the individual user at a single location.

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3.2 Telephone Survey of Repository Personnel

The results presented in this section are from a survey with 23 Repositories carrying ERIC materials.

The questions were directed at two general interfaces described n Section 3.1.

A. Between the repository and the formal ERIC components;

B. between the repository and the individual user.

.2.1 The Interface between the Repository and on the Formal ERIC Components

The 23 respondents were questioned about the materials eceived from ERIC. Two classes of materials were distinguished - hose requested on a solicited basis by the repository and those sent y ERIC on an unsolicited basis. Table II summarizes the number of epositories receiving these two classes of materials.

An analyses of the information obtained from the repositories ndicates that, as "informal" components of the system, the repository nust initiate most of the contacts with the formal ERIC system components. Very little material is received by the repositories on a outine and unsolicited basis. The apparent contradiction in Table II he unsolicited materials received by the clearinghouses, is explained s a result of initial contacts by the repository, i.e. once the repository has taken the initiative of contacting and requesting materials rom a clearinghouse, they frequently continue to receive other eneral materials on an unsolicited basis.

The only possible exception seems to be the relationship etween ERIC Central and State Departments of Education. Here, ERIC Central does seem to take the initiative in keeping such repositories informed as to ERIC activities.

The solicited materials are for the most part products, rather han materials which could be used to publicize ERIC or help the user ain access.

Again there is one exception. The materials received from the learinghouses, and to some extent from ERIC Central (solicited and nsolicited) do go beyond the product category. These additional naterials fall into the classification of "access materials" and are iscussed in detail in Section 3.4.

Table II

Number of Repositories (N = 23) Receiving Materials (both Solicited and Unsolicited) from the Five Formal Components of the ERIC System

	SOURCE OF MATERIALS				
	ERIC Central	Clearing-houses	EDRS	GPO	RIE Contractor
Unsolicited	4	19	2	3	1
Solicited	6	18	23	23	1

The 23 respondents were also asked for suggested products to facilitate the user's access to ERIC products. The most frequently mentioned suggestions (8) centered around better publicity for ERIC and improved materials for explaining its purpose, products and operation.

Of the 23 respondents, only 3 felt that they were well informed about changes and innovation taking place in the ERIC system. Even the major changeover from Bell and Howell to NCR as EDRS contractor was transmitted to the respositories only in an indirect manner. Only 9 respondents acknowledged receiving any information at all and 7 of these stated that their source of information was outside of the ERIC system (mostly newsletters and journals).

3.2.2. The Interface between the Repository and Individual User

Thirteen of the 23 repositories have materials which they have produced to aid the individual user in gaining access to the ERIC system. Twelve of the 23 have ERIC prepared material ("How to Use ERIC") to aid in access. Six repositories provide individual assistance in lieu of a published manual.

The most frequently encountered difficulties in using ERIC are:

1. General lack of knowledge of the system, its contents and the procedure for its use, and

2. difficulty in understanding and using the ERIC indexing system.

In general, the respondents and the repositories felt that the individual users were satisfied with the materials provided by ERIC (18 of the 23). They felt, however, that their service to the individual user could be improved by:

1. Decreased lag time in receipt of materials for EDRS.

2. Improved indexing of ERIC materials.

3. Improved microfiche reader equipment.

Finally, in trying to assess actual use of ERIC materials at the repository, it was found that most of them do not keep statistics on the use of the materials which they possess. In the absence of any existing quantitative information, it was decided that an estimate of actual use could only be obtained by sending logs to these repositories. The results of this phase of the study are presented in Section 3.3.

3.3 The ERIC User Log

Logs of actual use of ERIC materials during a one week period were returned from seventeen repositories. These included seven serving local school districts, three located in state departments of education, three situated in regional education laboratories and four centered in institutions of higher education. Appendix C contains a list of these cooperating repositories.

Eighty-six individual entries were made during the survey; an average of about five per repository. Individuals with various occupational roles were represented in the sample of users surveyed. Table III presents an occupational breakdown of those surveyed at the various types of repositories.

This table indicates that the various types of repositories do seem to save different occupational types. This survey shows that local school district repositories serve mainly administrators and researchers; state departments of education and regional education laboratories serve mainly administrators; and institutions of higher education have students as their main users. It must be kept in mind, however, that the survey ran for a short period of time and that a small "illustrative" sample of repositories was employed.

The users of the ERIC system may seek a variety of information which can take the form of abstracts, bibliographies, reports either in hard copy or microfiche and state-of-the-art papers. Table IV shows the number and percent of users from each type of repository who sought these various forms of information during the one week survey. Overall, reports are the most sought after product; and most of these are desired in microfiche. Users at regional education laboratories, however, differ in that they most often are looking for abstracts. The users at local school district repositories seem to be more interested in state-of-the-art papers than are any of the other users.

The user log had outlined several general reasons that may have been influential in causing the user to seek the ERIC materials at the repository. Table V reveals the reasons. More than 1/3 of the users stated that their previous use of ERIC materials was a deciding factor in their current usage. Excluding this reason, more said they were referred to the materials by personnel in the repository or by colleagues or professors. Only a small percentage had discovered the materials on their own or had read about them and decided to use them. Some of the users felt more than one factor influenced their decision and, hence, the data do not represent mutually exclusive categories.

Table III

Number and Percent of ERIC Users in Various Occupational Categories Being Served During a One Week Period by the Four Types of Repositories

Occupation	Local School Districts		State Dept. of Education		Regional Ed. Laboratories		Higher Education		Total
	#	%	#	%	#	%	#	%	
Administrator	9	29	8	38	5	42	1	5	23
Researcher	10	22	2	10	1	8	0	0	13
Teacher	3	10	1	5	3	25	4	18	11
Student	3	10	4	19	2	17	15	68	24
Information Specialist	5	16	1	5	0	0	0	0	6
Consultant	1	3	3	14	0	0	0	0	4
Other	0	0	2	10	1	8	2	9	5
Total Individuals	31	100	21	100	12	100	22	100	86
Number of Repositories	7		3		3		4		17
Average number of users per Repository	4.4		7.0		4.0		5.5		5.1

Table IV

Number and Percent of Surveyed Users from Each Type of Repository Seeking Various Forms of Information

	TYPE OF REPOSITORY									
	Local School Districts (N = 31)		State Dept. of Education (N = 21)		Regional Ed. Laboratories (N = 12)		Higher Education (N = 22)		Total (N = 86)	
Type of Information	#	%	#	%	#	%	#	%	#	%
Abstracts	18	58	9	43	9	75	6	27	42	49
Bibliographies	9	29	6	29	1	8	10	45	26	30
Reports	26	84	17	81	4	33	18	82	65	76
Hard Copy	9	29	9	43	0	0	2	9	20	23
Microfiche	21	68	14	67	3	25	13	59	51	59
State-of-the-Art Papers	7	23	1	5	0	0	1	5	9	10

Number and Percent of Surveyed Users Who Gave Various Reasons for Their Decision to Refer to ERIC Materials

Reason for Referring to ERIC Materials	TYPE OF REPOSITORY Local School Districts (N = 31)		State Dept. of Education (N = 21)		Regional Ed. Laboratories (N = 12)		Higher Education (N = 22)		Total
	#	%	#	%	#	%	#	%	
Have used them before	21	68	6	29	1	8	4	18	32
Recommended by colleague or professor	6	19	9	43	0	0	8	36	23
Recommend by repository personnel	4	13	4	19	9	75	9	41	26
Discovered them in repository	0	0	1	5	1	8	4	18	6
Read about them	2	7	2	10	0	0	2	9	6

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The success which the users have in finding products related to their needs is rather high. Table VI summarizes the reported success of the surveyed users during the one week period. Overall almost 80% of users found the products they were looking for.

In analyzing the log returns, it was seen that the users were making use of the ERIC materials for a wide variety of subject matters. The users were generally satisfied with the system, stating in many cases that the service and materials were excellent and extremely valuable.

3.4 Evaluation of Clearinghouse Materials

This phase of the project was directed at evaluating the materials used by the clearinghouses to facilitate user access to the ERIC system. A request was sent to each of the clearinghouses for copies of materials used by them to publicize their services and for ERIC materials used to aid the user in obtaining the information or services he needs. Materials were received from 16 of the clearinghouses. After reviewing these materials, nine general categories were identified. They are:

A. Brochures - These usually provide a general description of the ERIC system and the specific clearinghouse which generated the brochure as well as an overview of the products and services provided by the clearinghouse.

B. Journal Articles and Reprints - These are articles about the clearinghouse and/or the ERIC system. They also contain general descriptions of a given clearinghouse, its functions, services and products.

C. Posters - Serves a one time announcement function for the clearinghouse, its services, and special events. They are usually designed to be mailed and posted at addressee's facility.

D. Newsletters and Bulletins - These are basically a current awareness service. They provide a periodic vehicle for the general announcement of such things as new products and services and changes in policies and personnel. They are also used to highlight selected existing services and alert recipients to special events such as meetings, colloquia and seminars related to the clearinghouse and its services.

E. Form letters - Similar in function to the Newsletters and Bulletins but not issued on a periodic or regular basis. They are usually limited to a single topic.

The Success of the Surveyed Users in Finding Their Desired Products

	TYPE OF REPOSITORY									
	Local School Districts (N = 31)		State Dept. of Education (N = 21)		Regional Ed. Laboratories (N = 12)		Higher Education (N = 22)		Total	
Degree of Success	#	%	#	%	#	%	#	%	#	%
Found their desired product(s)	28	90	16	76	11	92	13	59	68	79
Found part of their desired product(s)	1	3	3	14	0	0	0	0	4	5
Didn't find their desired product(s)	2	7	0	0	1	8	4	18	7	8
No comment	0	0	2	10	0	0	5	23	7	8

F. Progress Reports - Reports on current status and plans. They offer another vehicle for presenting information on changes and innovations within the individual Clearinghouses.

G. Handbooks - These are published guides specifically designed to aid in the use of the ERIC system. There are two types -- one directed at ERIC in general and the other developed by a Clearinghouse which emphasizes the products and services of that Clearinghouse.

H. Product Samples - These are used by the Clearinghouses to acquaint the user with the nature of the products produced by them. They include copies of bibliographies, state-of-the-art papers, review papers as well as samples of microfiche.

I. Order Blanks - Standard forms for ordering materials or services. Both OE/ERIC forms and Clearinghouse prepared forms are used. The latter emphasize Clearinghouse generated materials. They usually contain instructions for ordering and prices.

It appears that three important functions are being fulfilled by these materials.

1. Publicity and General Information about ERIC and the Clearinghouse. (Items A, B, and C)

2. Current Awareness of Changes and Special Events (Items C, D, E, and F)

3. Materials to Facilitate the Use of the System (Items G, H, and I)

While all of these nine classes of materials are used by the ERIC Clearinghouses, collectively, no single Clearinghouse used all nine. See Table VII for the frequency of use of each class. While every Clearinghouse used at least one type of access materials, no Clearinghouse used more than five. The average number of classes used was three with the frequent combination being Brochures, Newsletters and Bulletins and Product Samples. Whenever one technique was used alone it was material in the Brochure classification.

TABLE VII

The Number of Responding Clearinghouses (N=16) Using the Different Types of Access Materials.

Type of Access Material	Number Using
Brochures	13
Newsletters and Bulletins	9
Product Samples	8
Order Blanks	6
Form Letters	5
Handbooks	4
Journal Articles and Reprints	2
Posters	2
Progress Reports	1

4. CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are based upon the data presented in the preceding section. In considering these conclusions and recommendations, however, certain limitations in the data should be recognized. The studies conducted during this phase of the contract were viewed as exploratory in nature, i.e. no definitive answers were expected. It was hoped that the data obtained from small "illustrative" samples would at least indicate general trends and major difficulties. It is believed that the studies accomplished these objectives in spite of the restricted sample size and relatively brief observation periods.

In addition, it must also be recognized that the samples contained only those people who know and use ERIC. No attempt was made to sample the non-user, or to estimate the "popularity" of the system.

Even with the limitations mentioned above, certain consistent patterns emerged within and among the individual surveys. The following recommendations are based upon the frequent and consistent patterns and are presented here for the consideration of the Office of Education.

This phase of the study was directed at obtaining information on the actual use of the ERIC system and the ease with which a user may gain access to the system. In considering any information system it becomes obvious that the viability of that system is dependent upon its use. If a system is to be used at all the potential user must become aware of the system's existence, its resources, its products and its services. In addition, he must be kept aware of significant changes to the system. Finally, if he is to use the system effectively, he must be provided with information on how the system works and how to use it.

The first set of recommendations are concerned with familiarizing the user with the ERIC system.

1. There should be a significant increase in the dissemination of information about ERIC. Although the current ERIC users are, for the most part, satisfied with the system, it appears that only a small percentage of the potential user population is taking advantage of ERIC materials and services. Even those who are presently

using ERIC seem to become aware of the system mainly through contact with other ERIC users. It would appear that increased ERIC publicity should become of prime concern to the Office of Education. Continued and expanded use should be made of journal articles about ERIC, brochures, newsletters, posters and handbooks. In addition as much use as possible should be made of seminars and symposia where feasible. This publicity function should not only be undertaken at the Office of Education, but the other components, e.g. Clearinghouses, EDRS, repositories should be encouraged and aided in the development of publicity materials. Certainly the interchange of ideas should be encouraged so that maximum use could be made of particularly effective materials and techniques already developed and used by a particular ERIC component. The same specific recommendations should be applied not only to the publicity materials but also to the materials used to aid the access of the user, e.g. handbooks, forms, etc.

2. It is felt that once the user is aware of ERIC's existence, that access to the system would be immeasurably improved by the development of a standardized medium for announcements critical to the use of the system, e.g. system modifications, changes in personnel, changes in contractors, address changes, price changes, etc. While there are many ways of approaching this problem it appears that RIE itself offers a convenient means for the dissemination of important information to the user population. It is suggested a page or pages be set aside in each issue of RIE as a current awareness channel for information about ERIC.

The next set of recommendations are concerned with repositories. epositories are organizations or parts of organizations which have extensive RIC holdings and serve a local set of users. They may be found serving cal school districts, state departments of education, regional education boratories, institutions of higher education and industrial and non-profit rms. The repositories seem to be the only component within the ERIC ystem which offers a "one stop information service" to the user. It is ly by entering the system through the repository that ERIC appears as a monolith" rather than a combination of components, each with its own ecialized products and services. While a decentralized system may be advantageous from a functional point of view it creates access problems for the individual user. It would appear that the repositories represent an existing resource which the Office of Education could utilize in improving access to the ERIC system. In essence, they can form the nucleus of a network of geographically distributed information centers for the dissemination of ERIC materials and services. To some extent such a de facto network does exist on an informal level.

3. That the relationship with the repositories be more formally structured and the role of the repository as the "ultimate retailer" be recognized. Such formalization of the role of the repositories would include:

   A. increased dialogue between ERIC central and the repositories.

   B. improved channels of communication between the repositories and the other formal components of the ERIC System, especially the Clearinghouses. (One simple way is to publish a list of all of the repositories and distribute it to all of the formal system components.)

   C. put the repositories on a mailing list to receive brochures, handbooks and access materials prepared by OE and the Clearinghouses.

   D. support special services and products prepared at the repositories using ERIC materials.

   E. make available to the repositories the tapes prepared by the RIE contractor so that on line computer searching can become possible.

   F. encourage the participation of the repositories in the activities described under Recommendation 1.

Finally, once the user has begun to regularly utilize the ERIC System, he must find the service satisfactory. The one major area of improvement which can be made appears to be in the timeliness of the service.

4. Efforts be made to insure the timely availability of materials ordered through EDRS. It is important that the activities be coordinated so that notices of availability

appearing in RIE coincide with the actual availability of documents through EDRS. This appears to be the one most frequent criticism of the system.

5. REFERENCES

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THIS PAGE WAS MISSING FROM THE DOCUMENT THAT WAS
SUBMITTED TO ERIC DOCUMENT REPRODUCTION SERVICE.

APPENDIX A

Repositories Contacted in the User Access Telephone Survey

Local School Districts (7)

Dade County Public Schools	(Fla.)
Research and Information Services for Education - Montgomery County	(Penna.)
Contra-Costa County	(Calif.)
Imperial Schools - Pasedena	(Calif.)
San Mateo County	(Calif.)
Schools Center - Detroit	(Mich.)
School District of Philadelphia	(Penna.)

State Departments of Education (5)

- Maryland State Department of Education
- State Department of Education - Missouri
- Department of Public Instruction - North Carolina
- Department of Education - New Mexico
- State Department of Education - California

Regional Educational Laboratories (3)

- Central Midwestern Regional Educational Laboratory - Missouri
- Michigan - Ohio Regional Educational Laboratory - Michigan
- Far West Laboratory for Educational Research and Development - California

Higher Education (7)

- Kent State University - Ohio
- East Texas State University
- Western Washington State College
- Southern Illinois University
- Central Missouri State College
- State University College - Gesesco, New York
- Shippensburg College - Penna.

APPENDIX A (Continued)

Miscellaneous (1)

Economic Systems Corporation - Maine

APPENDIX B

Questions for Repository Personnel

-- With respect to interfacing with the formal components of the ERIC system.

-- Convey this information to the interviewee--

There are several formal components within the ERIC system which handle information and materials and which are capable of supplying them to information centers and ultimately to the individual user. These components are:

(1) ERIC central

(2) The ERIC clearinghouses

(3) The ERIC document reproduction service (EDRS - NCR)

(4) The Government Printing Office

(5) The Research in Education contractor (North American Rockwell)

-- Ask the following questions - rephrase or clarify where necessary--

1. What materials or information that you do not specifically request or pay for do you receive from each component? These would probably be in the form of newsletters, bulletins, etc.

2. From which of these sources do you request materials? What do you request and how satisfied are you with the products provided?

3. What products could these sources provide which would make access to the ERIC system easier?

4. How well informed are you about changes or innovations which occur in the ERIC system? How is this information acquired?

-- With respect to interfacing with individual users

5. What materials do you have and use which provide information to the users about access to the ERIC system? -- This should include information generated by both the repository and the formal components. Ask if we could receive samples of such material that they have generated.

6. What problems or misunderstandings do the users have when they use the ERIC materials? -- Stress access.

7. Are the users satisfied with the materials provided by ERIC? Are there any suggestions for improvement?

8. Are there any statistics you could give me on the number and type of your ERIC users? -- On the phone -- By mail (Specify the time period during which the data was collected) For the following types:

   Administrators

   Teachers

   Researchers

   Information Specialists

   Social or Community Workers

   Students

   Others (Specify)

-- To those individuals who will be receiving the ERIC User Log, mention this fact and give a brief explanation.

APPENDIX C

1. Sample page from ERIC User Log
2. Cover letter to repositories
3. List of repositories which returned the ERIC User Log after the survey period

ERIC USER LOG

This information is being collected as part of a contract sponsored by the U.S. Office of Education to assess user access to the ERIC system. Your cooperation in providing the requested information will be greatly appreciated.

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DATE: ____________

1. AFFILIATION: ______________________________

2. OCCUPATION: (check the ONE most applicable)

☐ ADMINISTRATOR
☐ INFORMATION SPECIALIST
☐ TEACHER
☐ SOCIAL OR COMMUNITY WORKER
☐ RESEARCHER
☐ STUDENT
☐ OTHER (specify) ______________

3. ON WHAT SUBJECT(S) ARE YOU SEEKING INFORMATION?

____

____

____

4. WHAT FORM OF INFORMATION ARE YOU SEEKING?

☐ ABSTRACTS
☐ BIBLIOGRAPHIES
☐ REPORTS / ☐ HARD COPY ☐ MICROFICHE
☐ STATE OF THE ART PAPERS

5. WHY DID YOU DECIDE TO REFER TO ERIC MATERIALS?

☐ I HAVE USED THEM BEFORE
☐ I WAS REFERRED TO THEM BY A COLLEAGUE
☐ THE LIBRARIAN/INFORMATION SPECIALIST HERE SUGGESTED THAT I USE ERIC
☐ I SIMPLY DISCOVERED THE ERIC MATERIALS WHEN I CAME TO SEEK INFORMATION
☐ I READ SOME INFORMATION ABOUT ERIC IN ____________
☐ OTHER REASONS (specify) ________________

6. WHAT ERIC MATERIALS DID YOU USE IN SEEKING THE DESIRED PRODUCT(S)?

____________ ____________

____________ ____________

7. DID YOU FIND THE DESIRED PRODUCT(S)? __________

8. HOW ACCEPTABLE ARE THE ERIC SYSTEM AND ITS MATERIALS TO YOU? IN PARTICULAR, PLEASE COMMENT ON ACCESS TO THE SYSTEM.

(use the other side, please)

We are continuing to analyze the ERIC system under contract to the Office of Education and once more would appreciate your assistance. Enclosed is an ERIC USER LOG which we have prepared in order to question the users of ERIC materials. We would like each of your ERIC users, during a one week period, to fill out one of these sheets in the log.

We have selected the one week period from December 2 - 6 (or thru the 7th, if you provide services on Saturday) to sample the users. If the log could be placed in an area near one of the ERIC materials (Research in Education, for example) and brought to the attention of the individuals who use ERIC, we would be most grateful.

Also enclosed is a prepaid envelope to facilite the return of the log at the end of the one week period. Should the log be filled before the end of the period we would appreciate your noting the date and approximate time of the last entry on the cover. The log, in this case, can be returned immediately.

Thank you for your cooperation.

Sincerely,

Erwin W. Bedarf
Senior Research Associate

EWB/gw
Enclosure

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Repositories Returning ERIC User Logs

ocal School Districts (7)

Dade County Public Schools	(Fla.)
Research and Information Services for Education - Montgomery County	(Penna.)
Contra-Costa County	(Calif.)
Imperial Schools - Pasadena	(Calif.)
San Mateo County	(Calif.)
Boulder Valley Public Schools	(Colo.)
Wayne County Intermediate School District	(Mich.)

tate Departments of Education (3)

State Department of Education - Missouri

Department of Public Instruction - North Carolina

State Department of Education - California

egional Educational Laboratories (3)

Central Midwestern Regional Educational Laboratory - Missouri

Michigan-Ohio Regional Educational Laboratory - Michigan

Far West Laboratory for Educational Research and Development - California

igher Education (4)

Western Washington State College

Southern Illinois University

Central Missouri State College

San Diego State College

APPENDIX

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AMERICAN INSTITUTES FOR RESEARCH
WASHINGTON OFFICES

Address: 8555 Sixteenth Street, Silver Spring, Maryland 20910
Telephone: (301) 587-8201

26 September 1968

We are under contract to the Office of Education to analyze the ERIC System.

One phase of our work involves describing user access to the system. We would like to summarize the literature which each of the clearinghouses has prepared informing its users of the services it provides and how they may avail themselves of such services. Copies of any such booklets, flyers, etc. which you have used for such purposes will be greatly appreciated.

Thank you.

Sincerely,

Erwin W. Bedarf
Senior Research Associate

EWB/gw

Corporate Office • 135 N. Bellefield Avenue, Pittsburgh, Pennsylvania 15213 • (412) 683-7000

(A-94)

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FINAL REPORT

Project No. 7-1057
Contract No. OEC-1-7-071057-5000

RESEARCH AND ANALYSIS TO DEFINE CLEARINGHOUSE REQUIREMENTS FOR THE 1968-71 ERIC SYSTEM

Volume II of III Volumes

American Institutes for Research
Washington Office
8555 Sixteenth Street
Silver Spring, Maryland 20910

January 1969

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

AIR-7-12-1-69-FR-II

FINAL REPORT

Project No. 7-1057
Contract No. OEC-1-7-071057

RESEARCH AND ANALYSIS TO DEFINE CLEARINGHOUSE REQUIREMENTS FOR THE 1968-71 ERIC SYSTEM

Volume II of III Volumes
Analysis of the Content, Dissemination
and Use of ERIC Materials

Erwin W. Bedarf
Arthur L. Korotkin

American Institutes for Research
Silver Spring, Maryland

January 1969

The research reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

PREFACE

This is Volume II of a three volume final report for contract OEC-1-7-071057-5000. While the entire contract was directed at the analysis of the future clearinghouse requirements of the ERIC system, the results of the various tasks performed under the contract may be used independently and the Office of Education may choose to disseminate the various parts in different manners. The final report has been divided into:

Volume I:	Definition of the Scope of Future ERIC Clearinghouses;
Volume II:	Analysis of the Content, Dissemination, and Use of ERIC Materials;
Volume III:	A Study of User Access to the ERIC System.

It is hoped that this division will serve to improve the usefulness of the various tasks performed under the contract.

We acknowledge the contribution of Susan Cohen to many of the analyses presented in this report. We are also indebted to the individuals who participated in the telephone survey.

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Figure

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SUMMARY

An analysis of the content, dissemination and use of ERIC materials was performed. This was accomplished by analyzing various records and lists provided by the Office of Education, by cataloging the sales records of NCR, and by performing an ERIC user survey. The data are presented in various tables for the use of individuals concerned with the planning and evaluation of the ERIC system. This volume provides a profile of the ERIC system in terms of the users it serves, the materials it processes and the dissemination of those materials.

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1. INTRODUCTION

In an effort to analyze the current ERIC system, so that guidelines may be derived for its future scope, data are required which will reflect the usage of the system and its materials by the user population. Such data are important in order to determine how effectively the user is being served, how the system is used, and the purposes for which the system is used. To accomplish this, the users must first be identified and classified, their document requesting habits noted and their opinions concerning the disseminating system, recorded.

This report is intended to be descriptive and not, at this point, to make recommendations regarding the functioning of the ERIC system. The data included herein are meant to answer certain posed questions, so that the Office of Education will have information on which to base their decisions for future ERIC plans. The straight compilation of the data should allow everyone concerned to make unbiased interpretations.

This volume, therefore, serves to give a profile of ERIC as an information center in terms of the users it serves, the materials it processes and the dissemination of those materials.

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SUBMITTED TO ERIC DOCUMENT REPRODUCTION SERVICE.

2. METHOD

Several sources of information were analyzed in carrying out this study. Various records and lists provided by the Office of Education were analyzed; the sales records of the ERIC Document Reproduction Service (EDRS) now run by the National Cash Register Company were cataloged; and an ERIC user survey was conducted by telephone. In all, eight analyses were performed.

I. An analysis of Research in Education subscribers to show the distribution by type of subscriber and state. This analysis was prepared on the subscriber list from August 1967 and the subscriber list from April 1968.

II. An analysis on the RIE subscriber lists to show the number and percentage of subscribers for state agencies.

III. An analysis of RIE subscribers to show the distribution and percentages of local school unit subscribers per state.

IV. An analysis on the RIE contents (using RIE resumes for March and April 1968, as source data -- about 1200 documents) to show the sources of the documents carried. The distribution shows the percentage of documents originating from:

a. The OE Bureau of Research

b. The Office of Education other than those originating in the Bureau of Research

c. Government agencies other than the USOE

d. Journals, books, etc.

e. Non-government sources.

V. A Survey of the users of ERIC materials to determine who uses them, how frequently they are used, the purposes for which they are used, and the trends in use. A small "illustrative sample" was selected from those organizations and institutions with standing orders at EDRS and from those holding microfiche collections. A telephone survey was made to gather the data.

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VI. An analysis of demand sales by EDRS from the sales
cords of the NCR Company. The analyses focused on the number of
ders, and the number of titles and copies ordered for both micro-
he and hard copy. The same classification used in Item #I was used
categorize the users.

VII. An analysis of collection sales for the following
llections:

a. Disadvantaged

b. OE Historical Reports

c. Pacesetters 1966

d. Higher Education

VIII. An analysis of the categories of users having standing
lers for microfiche. This was done for both paid and free sub-
ibers to RIE.

Each of the previously listed eight items are discussed in the
lowing section. They are presented in the same order and are
nilarly numbered to facilitate reference to the original set of
stions. Greater detail and explanation of the methods used are
orporated here.

3. RESULTS

I. RIE SUBSCRIBER ANALYSIS BY TYPE AND GEOGRAPHIC LOCATION

Two subscriber mailing lists were used for this analysis, one from August 1967 and the second from April 1968. Each of the subscribers on the lists were classified by type of organization and by geographic location (state). The categories used to type subscribers were as follows:

1. Institutions of Higher Education - including research and development centers of universities
2. State Agencies
3. Local School Units and Agencies covering pre-kindergarten through grade 12 and including religious schools
4. Commercial Organizations
5. Non-Profit Organizations
6. Professional Associations and Foundations
7. Federal
8. Individuals
9. Foreign
10. Miscellaneous - including special libraries, hospitals, clinics, churches, museums, public libraries and any otherwise undefinable organization
11. Regional Educational Laboratories
12. HEW Research and Development Centers

The number and percent of total subscribers to RIE for each ist have been tabulated by type in Table Ia. This table also ncludes the percent change in subscribers for each category and or the total list from 1967 to 1968.

Table Ib contains a similar analysis for the subscriber lists ased on the geographic location of the subscribers. Data are also ncluded which show the mean number of subscribers per state and he percent of states with at least one subscriber.

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Table Ia

NUMBER AND PERCENT OF RIE SUBSCRIBERS FOR 1967 AND 1968 BY CLASS OF USER

User Class	1967		1968		% Change
	No.	% of Total	No.	% of Total	
Institutions of **Higher Ed.**	1115	35.6	1314	33.9	17.8
State Agencies	85	2.7	93	2.4	9.4
Local School Units	712	22.7	960	24.8	34.8
Commercial Organ.	371	11.8	428	11.0	15.3
Non-Profit Organ.	38	1.2	39	1.0	2.6
Profess. Assoc. and Found.	95	3.0	104	2.7	9.5
ederal	65	2.1	81	2.1	24.6
dividuals	400	12.8	479	12.4	19.8
oreign	122	3.9	211	5.4	73.0
iscellaneous	115	3.7	149	3.8	29.6
egional Labs.	10	.3	14	.4	40.0
W R&D Centers	3	.1	2	.1	-33.3
TAL	3131		3874		23.7

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Table Ib

NUMBER AND PERCENT OF RIE SUBSCRIBERS FOR 1967 AND 1968 BY GEOGRAPHIC LOCATION

State	1967		1968		% Change from 1967 to 1968
	No.	% of Total	No.	% of Total	
Alabama	38	1.2	34	.9	-10.5
Alaska	5	.2	4	.1	-20.0
Arizona	26	.8	40	1.0	53.8
Arkansas	12	.4	14	.4	16.7
California	330	10.5	412	10.6	24.8
Colorado	39	1.2	44	1.1	12.8
Connecticut	54	1.7	72	1.9	33.3
Delaware	13	.4	13	.3	0.0
Florida	83	2.7	88	2.3	6.0
Georgia	37	1.2	38	1.0	2.7
Hawaii	20	.6	13	.3	-35.0
Idaho	9	.3	3	.1	-66.7
Illinois	185	5.9	255	6.6	37.8
Indiana	72	2.3	69	1.8	- 4.2
Iowa	32	1.0	46	1.2	43.8
Kansas	24	.8	42	1.1	75.0
Kentucky	29	.9	27	.7	- 6.9
Louisiana	33	1.1	28	.7	-15.2
Maine	9	.3	11	.3	22.2
Maryland	60	1.9	77	2.0	28.3
Massachusetts	102	3.3	153	3.9	50.0
Michigan	145	4.6	183	4.7	26.2
Minnesota	55	1.8	77	2.0	40.0
Mississippi	12	.4	23	.6	91.7
Missouri	53	1.7	66	1.7	24.5
Montana	10	.3	10	.3	0.0
Nebraska	18	.6	25	.6	38.9
Nevada	11	.4	15	.4	36.4
New Hampshire	16	.5	21	.5	31.2
New Jersey	93	3.0	107	2.8	15.0
New Mexico	14	.4	21	.5	50.0
New York	453	14.5	519	13.4	14.6
North Carolina	39	1.2	51	1.3	30.8
North Dakota	9	.3	7	.2	-22.2
Ohio	96	3.1	126	3.3	31.2
Oklahoma	20	.6	23	.6	15.0

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Table Ib (Continued)

	1967		1968		% Change from 1967 to 1968
	No.	% of Total	No.	% of Total	
n	40	1.3	43	1.1	7.5
ylvania	201	6.4	219	5.7	8.2
Island	16	.5	20	.5	25.0
Carolina	17	.5	23	.6	35.3
Dakota	11	.4	12	.3	9.1
ssee	34	1.1	51	1.3	50.0
	98	3.1	129	3.3	31.6
	25	.8	17	.4	-32.0
nt	10	.3	6	.2	-40.0
a	65	2.1	70	1.8	7.7
gton	44	1.4	73	1.9	65.9
rginia	17	.5	23	.6	35.3*
sin	62	2.0	78	2.0	25.8
g	3	.1	2	.1	-33.3
of bia	101	3.2	127	3.3	25.7
ss. rr.	9	.3	13	.3	44.4
	122	3.9	211	5.4	73.0
	3131		3874		23.7
te*	58.0		75.7		
vith he on	100.0%		100.0%		

tes Only

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II. RIE SUBSCRIBER ANALYSIS FOR STATE AGENCIES

The subscribers who were categorized in the State Agency lass in the previous analysis (Table Ia) were further classified by tate. Table II shows the number and percent of total subscribers rom each state for the two subscriber lists. The mean subscribers er state and the percent of states with at least one subscription re also noted.

Table II

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NUMBER AND PERCENT OF

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STATE AGENCY SUBSCRIBERS TO RIE FOR 1967 AND 1968

e	1967		1968		State	1967		1968	
	No.	%	No.	%		No.	%	No.	%
bama	4	4.7	1	1.1	Montana	2	2.4	2	2.2
ska	-	---	-	---	Nebraska	1	1.2	-	---
ona	1	1.2	-	---	Nevada	1	1.2	-	---
ansas	2	2.4	1	1.1	New Hamp.	1	1.2	2	2.2
fornia	7	8.2	11	11.8	N. Jersey	1	1.2	2	2.2
rado	1	1.2	1	1.1	N. Mexico	1	1.2	-	---
necticut	1	1.2	3	3.2	N. York	5	5.9	15	16.1
ware	1	1.2	3	3.2	N. Carolina	1	1.2	2	2.2
ida	1	1.2	2	2.2	N. Dakota	2	2.4	3	3.2
gia	2	2.4	3	3.2	Ohio	1	1.2	-	---
ii	1	1.2	-	---	Oklahoma	1	1.2	1	1.1
	2	2.4	-	---	Oregon	5	5.9	2	2.2
is	-	---	2	2.2	Pennsylvania	8	9.4	4	4.3
na	1	1.2	1	1.1	Rhode Is.	4	4.7	3	3.3
	-	---	1	1.1	S. Carolina	1	1.2	1	1.1
as	1	1.2	1	1.1	S. Dakota	1	1.2	2	2.2
cky	2	2.4	-	---	Tennessee	-	---	1	1.1
siana	1	1.2	1	1.1	Te as	1	1.2	4	4.3
e	1	1.2	1	1.1	Utah	1	1.2	1	1.1
land	-	---	2	2.2	Vermont	1	1.2	1	1.1
achusetts	1	1.2	1	1.1	Virginia	-	---	1	1.1
gan	3	3.5	2	2.2	Washington	2	2.4	1	1.1
sota	2	2.4	1	1.1	W. Virginia	2	2.4	3	3.2
ssippi	-	---	1	1.1	Wisconsin	3	3.5	2	2.2
uri	3	3.5	1	1.1	Wyoming	1	1.2	-	---
			TOTAL			85		93	
			$\overline{X}$ Per State			1.7		1.9	
			% States with at least one subscription			86%		80%	

III. RIE SUBSCRIBER ANALYSIS FOR LOCAL SCHOOL UNITS

All of those subscriptions which were categorized as being held by Local School Units in Table Ia were subjected to a further breakdown by state or geographic area. Table III shows this breakdown in terms of the number and percent of total subscribers from each area. The mean number of subscribers per state and the percent of states with at least one subscription are also shown.

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Table III

NUMBER AND PERCENT OF LOCAL SCHOOL UNIT SUBSCRIBERS TO RIE FOR 1967 AND 1968

State	1967		1968	
	No.	%	No.	%
abama	11	1.5	8	.8
aska	4	.6	2	.2
izona	5	.7	13	1.4
kansas	2	.3	5	.5
lifornia	107	15.0	146	15.2
lorado	11	1.5	12	1.3
nnecticut	18	2.5	26	2.7
laware	4	.6	4	.4
rida	14	2.0	17	1.8
orgia	5	.7	7	.7
waii	2	.3	2	.2
ho	1	.1	1	.1
nois	40	5.6	53	5.5
ana	13	1.8	13	1.4
a	2	.3	7	.7
sas	5	.7	5	.5
tucky	12	1.7	7	.7
isiana	10	1.4	9	.9
ne	3	.4	-	--
yland	14	2.0	20	2.1
sachusetts	24	3.4	46	4.8
higan	39	5.5	68	7.1
nesota	16	2.2	23	2.4
sissippi	--	---	1	.1
ouri	10	1.4	23	2.4
Montana	3	.4	3	.3
Nebraska	4	.6	9	.9
Nevada	4	.6	5	.5
N. Hampshire	3	.4	9	.9
N. Jersey	35	4.9	42	4.4
N. Mexico	1	.1	4	.4
N. York	86	12.1	119	12.4
N. Carolina	10	1.4	8	.8
N. Dakota	1	.1	-	---
Ohio	22	3.1	23	2.4
Oklahoma	2	.3	1	.1
Oregon	12	1.7	13	1.4
Pennsylvania	51	7.2	69	7.2
R. Island	5	.7	5	.5
S. Carolina	5	.7	7	.7
S. Dakota	4	.6	4	.4
Tennessee	5	.7	7	.7
Texas	15	2.1	29	3.0
Utah	8	1.1	4	.4
Vermont	3	.4	2	.2
Virginia	20	2.8	16	1.7
Washington	18	2.5	32	3.3
W. Virginia	1	.1	2	.2
Wisconsin	15	2.1	22	2.3
Wyoming	1	.1	1	.1
D. C.	5	.7	4	.4
U.S. Poss. & Terr.	1	.1	2	.2
TOTAL	712		960	
$\overline{X}$ per state*		14.1		19.1
% states with at least one subscription	98%		96%	

* For States Only

IV. SOURCE OF RIE DOCUMENTS

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Each of 1273 document resumes from the March and April 1968 RIE was classified according to the source of each document into one of the following categories:

1. Bureau of Research documents
2. Office of Education documents other than those originating in the Bureau of Research
3. Government agency documents other than those originating in the Office of Education
4. Documents reprinted from journals, books, etc.
5. Non-governmental Technical Reports.

Each document was classified by subjecting it to the analysis presented in Figure 1.

If a document contained a BR number, reflecting Office of Education, Bureau of Research sponsorship it was classified in category #1. If it did not contain a BR number but had an OE number this indicated it had Office of Education sponsorship outside of the Bureau of Research and the document was placed in category #2. A document not containing a BR or OE number was next perused for an identification with another federal agency, such as NIMH for National Institute of Mental Health or DOL for Department of Labor. These documents were classified in category #3. Category #4 was reserved for the classification of documents which originally appeared in books or journals. The abstracts for these documents clearly indicate the reprint status or availability of the document from some other publishing source. The last category, #5, contained the remainder of the documents, which could be classified as technical reports with no government sponsorship indicated. This does not mean that some government sponsored documents did not find their way into this category but means that the abstract did not specify anything more than the author's affiliation.

The results of this analysis are presented in Table IV.

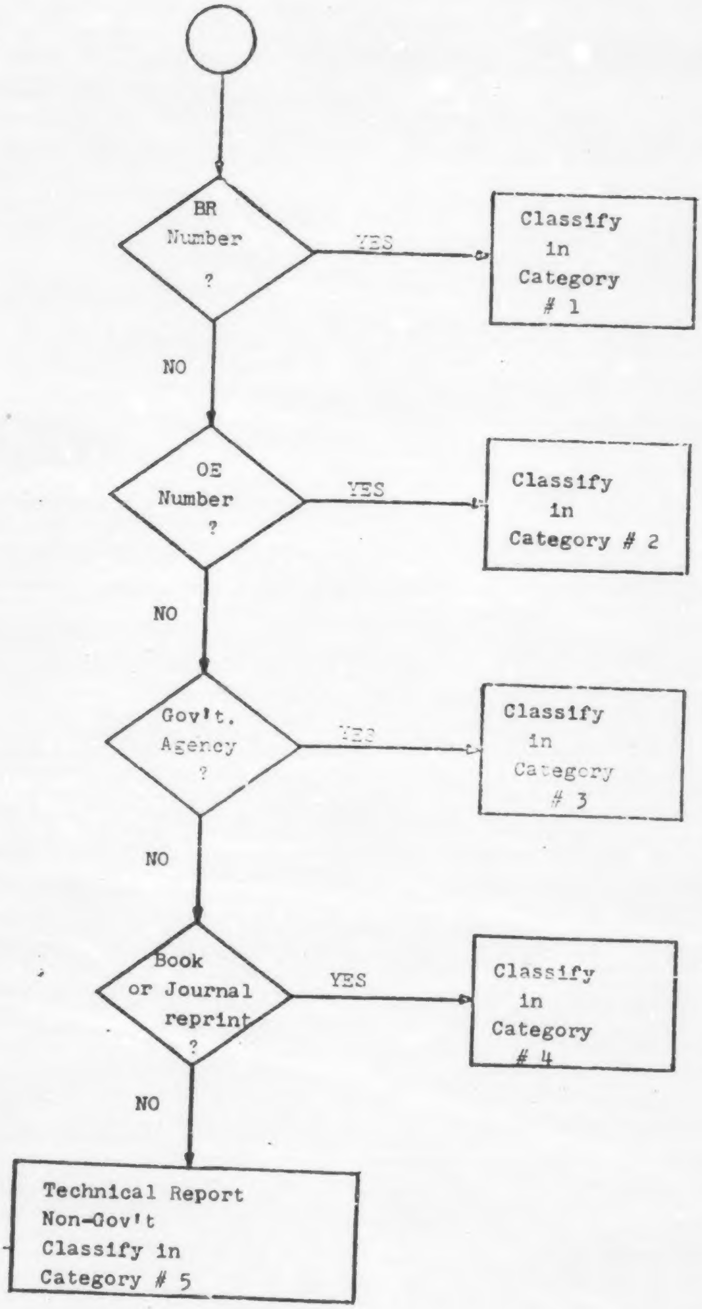
BR Number ?
YES
Classify in Category # 1
NO
OE Number ?
YES
Classify in Category # 2
NO
Gov't. Agency ?
YES
Classify in Category # 3
NO
Book or Journal reprint ?
YES
Classify in Category # 4
NO
Technical Report Non-Gov't Classify in Category # 5

Figure 1. FLOWCHART OF THE ANALYSIS TO WHICH EACH DOCUMENT WAS SUBJECTED

Table IV

PERCENT OF THE 1273 DOCUMENTS IN EACH OF THE FIVE SOURCE CATEGORIES

	Source	Per Cent
1.	Bureau of Research	16.9
2.	Office of Education (Non-BR)	5.5
3.	Government Agencies (Non-OE)	6.8
4.	Journal and Book Reprints	13.4
5.	Technical Reports (Non-Federal)	57.3

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V. ERIC TELEPHONE SURVEY

The purpose of this survey was to determine the patterns of se of ERIC materials by a small "illustrative sample" of organizational nd institutional users. These users were called repositories since hey held documents which could be used by individual users both ithin and external to their organization. This sample consisted of 5 repositories from local school districts, 6 from state agencies, from regional educational laboratories, 12 from institutions of higher ducation, and 4 miscellaneous repositories. Care was taken to achieve eographical representation and inclusion of both large and small epositories. Appendix A contains the names and addresses of those cluded in the sample. Each of these was sent a letter explaining the urpose of the survey, a set of sample questions, brochures from the ffice of Education and a response form to be mailed back to AIR indi- ating their availability for a telephone interview which would cover e sample questions. Copies of these materials appear in Appendix B.

Of the forty letters mailed, thirty were returned. Twenty- x of these indicated that a member of their organization was available r the interview on the day stated in the letter. The other four letters dicated a willingness to cooperate but could not have the appropriate rson available until a later date. The second column of the list in ppendix A indicates the outcome for each organization.

The subject areas questioned and the responses given were follows:

1. When (month and year) did you first acquire ERIC aterials in your library?

Twelve of the 26 respondents indicated that they had first quired ERIC documents before or during October 1966. Five of ese placed the time with the free distribution of the "Disadvantaged" llection. Another nine organizations first received materials between cember 1966 and March 1967 and the remaining five between July 1967 d January 1968. (Also, see number 5).

2. What ERIC Indexes do you have?

The number of organizations of the twenty-six responding ich hold the various indexes in their library is as follows:

26	Subscription to RESEARCH IN EDUCATION
24	Office of Education Research Reports, 1956-65; Indexes
24	Office of Education Research Reports, 1956-65; Resumes

22	Pacesetters in Innovation, Fiscal Year 1966
21	Pacesetters in Innovation, Fiscal Year 1967
22	Catalog of Selected Documents on the Disadvantaged: Subject Index
23	Catalog of Selected Documents on the Disadvantaged: Number and Author Index
19	Research in Education Annual Index - 1967 Reports
20	Research in Education Annual Index - 1967 Projects
16	Thesaurus of ERIC Descriptors, December 1967

3. Do you have any ERIC microfiche, either individual documents or full sets of microfiche listed on the enclosed sheets (EDRS order form)?

Twenty-five of the twenty-six respondents currently have a standing order for RIE microfiche. The twenty-sixth had placed an order which had not yet been filled.

The number of respondents holding various microfiche collections is as follows:

9	Higher Education
21	Selected Documents on Disadvantaged
14	USOE Research Reports 1956-65 Cum.
23	Research in Ed. 1966-67
25	Research in Ed. Jan. -June 1968 Cum.
15	1966 Pacesetters (Title III)
9	1967 Pacesetters (Title III)
1	Manpower Research Inventory

4. How did you first learn about ERIC materials?

Seven of the organizations claimed they learned about ERIC materials from several sources; three organizations could not specify a source.

The sources indicated, listed with their frequencies, are:

-flyers from OE (6)

-staff or faculty member (6)

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-journal or other similar literature (6)

-through the receipt of the disadvantaged collection from OE (5)

-meetings (2)

-through the Bell and Howell salesman (2)

-from other organizations (1)

-upon becoming a state depository for RIE (1)

-when ERIC came to use their documents prior to ERIC's formal announcement (1)

-office to office communication (1)

5. When were the materials first made available to the users?

Table Va shows the number of organizations which acquired ERIC materials and the number of organizations which made them vailable to their users by a given date.

The data presented in Table Va do not reflect the individual ime delays introduced by each organization. Table Vb shows the istributions of this lag in months.

6. How are the materials made available to the users? Is n Index or Abstract service used?

Twenty-two of the respondents specifically stated that RIE as used in the library by individuals seeking information from the RIC system. At least two organizations had worked up their own ndex to cover ERIC materials among others.

The user was given free access to the MF files in at least 16 f the organizations surveyed.

Nine organizations stated that they permitted and encouraged se by individuals outside of their organization. This is not to say at others did not have outside users also.

The typical practice in the use of the ERIC materials seemed be:

- free access to RIE which is filed on a shelf
- access to MF file (sometimes through the librarian)
- initial training in the use of MF reader-thereafter free access
- use of reader - printer where available.

Table Va

NUMBER OF ORGANIZATIONS ACQUIRING ERIC MATERIALS AND MAKING THEM AVAILABLE TO USERS BY A GIVEN DATE

	Acquired ERIC Materials	Made Available to the Users
Prior to End of October 1966	12	6
During November 1966		1
" December 1966	4	2
" January 1967	2	3
" February 1967	2	
" March 1967	1	2
" April 1967		
" May 1967		1
" June 1967		2
" July 1967	1	2
" August 1967		
" September 1967		1
" October 1967	2	2
" November 1967	1	1
" December 1967		
" January 1968	1	
" February 1968		
" March 1968		2
" April 1968		1

Table Vb

THE NUMBER OF ORGANIZATIONS WITH VARIOUS LAGS BETWEEN THE ACQUISITION OF MATERIALS AND THEIR AVAILABILITY TO USERS

Number of Months	Number of Organizations
0	12
1	2
2	2
3	3
4	1
5	
6	1
7	
8	3
-	
-	
-	
13	1
-	
-	
18	1

7. How are the materials publicized?

Various forms of publicity were used in publicizing the materials. They can be categorized as follows:

1) Formal Written - including newsletters, journals, and published bulletins.

2) Informal Written - including messages on bulletin boards and memos.

3) Formal Oral - including workshops, seminars, meetings, and conferences. A special medium under this heading is the classroom lecture.

4) Informal Oral - including personal contact by the librarians and word of mouth transmission by the users.

Table Vc summarizes the types of publicity used by an organization as a function of the frequency with which that organization's materials are used. It must be pointed out that several means of publicity may have been used by any one organization.

8. How frequently are these materials used?

The frequency of use in a "typical week" is analyzed in Table Vc by showing how many organizations fall into each frequency category. Some organizations were unable to specify the frequency of use since they have uncontrolled access to the materials.

It may be pointed out that the three heaviest users all used some form of classroom lecture as a means of publicizing the ERIC materials. These amounted to library orientation programs for students.

9. Are there any identifiable trends in the usage of the materials? Has there been an increase or decrease? Can this be explained?

Eighteen respondents stated that there had been a general increase in the usage of the materials. This was mostly due to people becoming aware of the service. One respondent attributed the increase to the change in his organization's concept of the library from a mere depository for documents to a more service oriented information system.

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Table Vc

NUMBER OF ORGANIZATIONS USING VARIOUS TYPES OF PUBLICITY GIVEN AS A FUNCTION OF THE ORGANIZATION'S FREQUENCY OF USE OF ERIC MATERIALS

Frequency of use/"Typical Week"	Number of Organizations	Type of Publicity				
		WRITTEN		ORAL		
		Formal	Informal	Formal	Classroom	Informal
1-5	6	4	2	2	1	2
6-10	5	2	1	2		3
11-15	2			1		1
16-25	2	1		2		2
26-50	2	1	1			
51-100	3		1	1	3	1
Frequency Unspecifiable	6	4	2	4	1	1
Total	26	12	7	12	5	10

Seasonal trends were evident in some situations. Summer saw a decrease in use by some organizations and an increase in others because students came in to work on research projects and dissertations.

10. Who are the users of the ERIC materials? Staff? Faculty? Researchers? Administrators? Students?

Table Vd shows a breakdown of the user population.

11. For what purposes are these materials used? For research projects? In teaching? Administrative purposes? To generally keep abreast of the literature?

Most of the respondents felt that users of the ERIC materials had a specific purpose for using the materials and did not merely use them for browsing purposes. Table Ve indicates the number of organizations which have provided and which mainly provide ERIC materials for various purposes.

12. Any comments you would like to pass on to the Office of Education?

The comments provided by the respondents may be organized under a number of headings. Following is a list of comments which relate to these topics.

A. Value of the ERIC system. These comments were made by eleven of the respondents.

- OE did a good job in utilizing the experience of other agencies in setting up its system.
- OE has taken the leadership in the field.
- The ERIC system represents a tremendous step forward.
- ERIC is a real treasure to the people in the state.
- In years to come this will be the most valuable service around.
- The quality and quantity of documents has improved -- more significant documents are coming in and more research studies are getting into the system.

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Table Vd

THE NUMBER OF ORGANIZATIONS HAVING VARIOUS USERS

pe of User	Number of Organizations Serving Each User Group	Number of Organizations Having Each User Group as its Main User
ff	12	8
culty	20	4
searcher	13	3
ministrator	12	3
dent	20	7

Table Ve

THE NUMBER OF ORGANIZATIONS HAVING PROVIDED MATERIALS FOR VARIOUS PURPOSES

Purpose	Number of Organizations Providing Such Information	Number of Organizations Mainly Providing Such Information
Research Projects	22	17
Teaching	8	3
Administrative purposes	5	1
Keep Abreast of the Literature	4	0

- The collection on the disadvantaged is excellant.

- The education faculty says this system is much needed.

- The ERIC system is a good idea.

- The materials are terrific.

- ERIC provides a valuable service.

- Wonderful idea!

- A gold mine!

B. RIE and Indexing. These remarks were voiced by ten espondents.

- It is difficult to understand Research in Education regarding what documents are available and how to obtain documents.

- Could the index be kept in the same size, shape, color, etc., to facilitate binding and to aid in teaching the color codes?

- The layman may be confused as to what the system (RIE) is. It scares people.

- We would like to see a cumulative index for all ERIC documents, not just those from RIE. This would facilitate searches.

- Cataloging is slow -- MF arrive before the indexes do.

- The cross referencing needs improvement.

- More indexing is needed, especially subject indexing.

- There is no easy way to use the index.

- The indexing in RIE is terrible. Non-relevant terms are used.

- There is a need for more subject indexing.

- How do you get information on EP numbered items.

- There is a problem with the terms in the thesaurus. They need to be more specific.

C. Service provided by EDRS. These comments were collected from twelve of the respondents.

- The transition from Bell and Howell was a mess.

- The transfer of EDRS from Bell and Howell to NCR created a problem. Some documents that should have been received are missing.

- It was disastrous when NCR got the contract. The back log was terrible. The users should be notified when changes like this take place. It was difficult to locate NCR by telephone in Maryland.

- The changeover from Bell and Howell to NCR seemed to cause problems in sending out orders.

- NCR service is bad.

- The white envelopes that the MF come in are not substantial enough when one is a heavy user of MF.

- NCR service has improved.

- Hopefully the service will get better.

- There is a long time lag.

- The time lag for documents is not significant.

- What does one do about missing MF in collections?

- What does one do about missing MF? --MF that are not clear?

- EDRS should make the titles of missing MF known to the purchaser. They should be sent as soon as possible.

- There has been quite a delay in getting our standing order started. An order was submitted to Bell and Howell in October 1967 and to NCR in March 1968.

D. Materials and Services Desired. This list of remarks was compiled from the conversations with five of the respondents.

- We are looking forward to a national information center for education which would be similar to NLM (ERIN - Educational

Resources Information Network) and which would search all areas with journal literature included. We are looking for an Index Medicus of Education. We are dependent on ERIC's expansion particularly the advent of access to the magnetic tape system. Otherwise, we feel we will have to process documents ourselves.

- We are currently key punching information from RIE to better serve our users. We are excited at the thought that copies of North American's tapes will be made available to the users.
- The North American tapes should be available for the performance of searches. North American has the capacity and this is the final touch that would make the system work.
- We would like on-line access to the ERIC tapes for direct search capacity for research purposes.
- We would like to be able to search the materials which remain in the Clearinghouses.
- There is need for a clearinghouse for special interest groups, such as, art and music.
- There is a need for more clearinghouses. One on economics is desirable.
- There is uneven coverage among the clearinghouses. We get questions from all areas and thus would like equal clearinghouse coverage.
- We heard that OE plans to work with periodicals. That sounds interesting.
- Copyrighted material is valuable to have available.
- The MF could be reduced further to get more on a card -- a more compact service.
- A current awareness service should be added.

E. Equipment. Four participants mentioned changes they would like to see in this area.

- There should be a standard filing cabinet for filing MF, one that is not as expensive as those that exist.

- MF is time consuming to read and some organizations can't afford a reader-printer.

- There are no good MF readers. Double imagery and poor lighting are the main problems.

- The documents are difficult to read. There is a need for an effective MF reader, which is inexpensive and will yield good MF to HC reproductions.

F. Publicity. Four organizations submitted suggestions regarding publicity.

- OE should get more word out to the people to use the ERIC materials.

- The updated price lists were slow in coming out.

- We would like to be made aware of new materials and new indexes.

- There is a need for more publicity about the ERIC system in periodicals such as Library Science.

G. Free Materials. Two respondents made comments on the availability of free ERIC materials.

- USOE should make these materials available for free if one is carrying on an activity such as serving the public schools.

- When free MF collections are given to organizations it should first be established that they have a use for them and that they will use them. OE gave MF to a school district, that has made no use of the MF when we (a college), having a great use for MF, had to pay.

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VI. DEMAND SALES BY EDRS

All of the NCR sales orders for demand sales were analyzed, ting with those orders unfilled by Bell and Howell through those ived and processed by NCR at the end of May 1968. The follow- data was collected from each order:

1. Type of order - i. e., was the order for microfiche (MF) only, hard copy (HC) only or for both types of copy?
2. The user category of the orderer.
3. The geographic location of the orderer.
4. The number of MF and/or HC titles ordered.
5. The number of MF and/or HC copies ordered.

In all, 2603 orders were processed in this manner. The data presented in the following four tables.

Table VIa gives the distribution of EDRS demand orders by type of copy requested. This shows orders for HC only account more than half of the total orders placed.

An analysis of the ordering practices of the various types of r is presented in Table VIb. Shown here are the number and cent of total orders placed by each type, the number and percent MF titles and copies and the number and percent of HC titles copies. The data are arranged so that one can readily determine preference for type of copy of the various users.

Table VIc indicates the results of the demand sales analysis state. The analysis includes the number of orders, MF titles, copies, HC titles and HC copies ordered from each state or a. This allows for detailed investigation of those areas which serving the individual users with the various document materials. e information on the number of orders placed by users within h area has been re-ordered according to magnitude and is pre- nted in Table VId.

Table VIa

DISTRIBUTION OF EDRS DEMAND ORDERS BY TYPE OF COPY REQUESTED

Type of Order	No. of Orders	% of Orders
Microfiche only	959	36.8
Hard Copy only	1571	60.4
Mixed	73	2.8
Total	2603	100.0

User Category	(% of Total Orders 2603)	MF		HC	
		Titles %	Copies %	Titles %	Copies %
Institutions of Higher Educ.	1008 (38.7)	10591 (45.8)	10671 (45.4)	2031 (35.5)	2151 (35.5)
State Agencies	93 (3.6)	2125 (9.2)	2290 (9.7)	130 (2.3)	174 (2.9)
Local School Units	668 (25.7)	6980 (30.2)	7040 (29.9)	1653 (28.9)	1776 (29.3)
Commercial Organizations	237 (9.1)	1251 (5.4)	1287 (5.5)	640 (11.2)	649 (10.7)
Non-profit Organizations	18 (.7)	26 (.1)	26 (.1)	58 (1.0)	61 (1.0)
Professional Associations and Foundations	45 (1.7)	144 (.6)	144 (.6)	90 (1.6)	93 (1.5)
Federal	38 (1.5)	159 (.7)	159 (.7)	64 (1.1)	72 (1.2)
Individuals	316 (12.1)	761 (3.3)	784 (3.3)	550 (9.6)	553 (9.1)
Foreign	119 (4.6)	881 (3.8)	881 (3.7)	324 (5.7)	331 (5.5)
Miscellaneous	26 (1.0)	50 (.2)	50 (.2)	29 (.5)	29 (.5)
Regional Educational Labs.	29 (1.1)	176 (.7)	186 (.8)	138 (2.4)	138 (2.3)
HEW R & D Centers	6 (.2)	2 (.0)	2 (.0)	22 (.4)	32 (.5)
Total	2603	23146	23520	5729	6059

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Table VIc

ANALYSIS OF DEMAND SALES BY STATE

		MF		HC	
State	No. of Orders	Titles	Copies	Titles	Copies
Alabama	17	148	151	38	39
Alaska	3	20	20	0	0
Arizona	34	415	421	32	34
Arkansas	7	104	104	0	0
California	313	2204	2262	770	799
Colorado	31	469	469	38	38
Connecticut	45	714	714	85	135
Delaware	13	222	231	6	6
Florida	53	1201	1216	101	104
Georgia	26	1116	1116	107	108
Hawaii	26	567	567	58	58
Idaho	8	95	96	2	3
Illinois	139	381	386	223	242
Indiana	55	92	103	226	237
Iowa	31	277	296	43	43
Kansas	37	730	730	72	72
Kentucky	14	56	56	78	78
Louisiana	15	270	270	107	108
Maine	7	253	253	8	8
Maryland	65	247	247	122	174
Massachusetts	93	486	486	255	267
Michigan	98	284	284	330	343
Minnesota	50	477	491	69	71
Mississippi	14	192	192	27	27
Missouri	39	110	110	73	73
Montana	9	205	205	3	4
Nebraska	18	215	215	112	112
Nevada	16	352	352	66	66
New Hampshire	7	34	34	3	3
New Jersey	81	802	812	128	138
New Mexico	13	116	116	14	14
New York	290	1481	1485	637	678
North Carolina	46	254	254	111	111
North Dakota	7	30	30	8	8

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Table VIc (Continued)

	No. of. Orders	MF		HC	
		Titles	Copies	Titles	Copies
	100	454	461	210	212
oma	18	145	145	72	72
on	47	281	284	49	50
sylvania	136	673	721	346	351
e Island	23	256	256	6	6
Carolina	20	88	88	27	27
Dakota	16	82	82	17	17
essee	35	1401	1402	55	66
s	85	1995	2155	156	201
	19	333	334	22	22
ont	7	25	25	29	30
nia	44	123	123	74	75
ington	48	740	740	85	88
Virginia	14	250	250	12	12
nsin	80	461	461	147	150
ing	7	24	24	2	2
ct of mbia	58	311	311	117	119
Poss. erritories	7	3	3	27	27
gn	119	881	881	324	331
	2603	23146	23520	5729	6059

Table VId

NUMBER AND PERCENT OF TOTAL ORDERS BY STATE IN ORDER OF MAGNITUDE

State	No. of Orders	% of Total Orders (2603)
California	313	12.0
New York	290	11.1
Illinois	139	5.3
Pennsylvania	136	5.2
Foreign	119	4.6
Michigan	98	3.8
Ohio	100	
Massachusetts	93	3.6
Texas	85	3.3
New Jersey	81	3.1
Wisconsin	80	
Maryland	65	2.5
District of Columbia	58	2.2
Indiana	55	2.1
Florida	53	2.0
Minnesota	50	1.9
Oregon	47	1.8
North Carolina	46	
Washington	48	
Connecticut	45	1.7
Virginia	44	
Missouri	39	1.5
Kansas	37	1.4
Arizona	34	1.3
Tennessee	35	
Colorado	31	1.2
Iowa	31	
Georgia	26	1.0

Table VId (Continued)

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te	No. of Orders	% of Total Orders (2603)
waii	26	
ode Island	23	.9
ıth Carolina	20	.8
braska	18	.7
lahoma	18	
ah	19	
abama	17	.6
uisiana	15	
vada	16	
uth Dakota	16	
laware	13	.5
ntucky	14	
ssissippi	14	
w Mexico	13	
est Virginia	14	
kansas	7	.3
aho	8	
ine	7	
ontana	9	
w Hampshire	7	
rth Dakota	7	
rmont	7	
yoming	7	
S. Possessions & Terr.	7	
aska	3	.1

VII. ANALYSIS OF MICROFICHE COLLECTION SALES

An analysis was undertaken to determine how many microfiche collections and titles had been distributed to the user population as a function of user category and geographic location.

Five collections were considered in this analysis, each collection containing a different number of titles as follows:

Collection	No. of Titles in Each
Higher Education	845
RIE (11/66 - 6/68)	6145
Disadvantaged	1746
Historical (USOE)	1214
Pacesetters 1966	1075

Fifty-four collection sets were found to have been distributed to various users. Table VIIa shows this distribution according to type of user and Table VIIb shows the distribution according to geographic location.

These collections represented the distribution of over one-half million titles. Tables VIIc and VIId show this distribution according to type of user and location, respectively.

USERS IN EACH CATEGORY

User Category	Type of Collection				
	Higher Education	R. I. E.	Disadvantaged	Historical	Pace Setters 66
Institutions of Higher Education	36	31	47	48	46
State Agencies	1	1	1	3	1
Local School Units	4	9	7	7	6
Commercial Organizations		1	2	2	1
Non-Profit Organizations					
Professional Associations and Foundations					
Federal					
Individuals					
Foreign					
Miscellaneous	1			1	
Regional Educational Laboratories					
HEW R & D Centers					
Totals	42	42	57	61	54

Table VIIb

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NUMBER OF MICROFICHE COLLECTIONS PURCHASED BY USERS IN EACH STATE

State	Type of Collection				
	Higher Education	R. I. E.	Disadvantaged	Historical	Pace Setters 66
Alabama					
Alaska					
rizona					
rkansas					
alifornia					
olorado	6	4	6	7	6
onnecticut			2	1	1
elaware					
lorida	3	3	4	2	2
eorgia		2	2	2	2
waii					
aho					
inois	1	2	2	2	1
diana			1		
va	1		1		
nsas	1	1	1	2	2
ntucky			1	2	
uisiana	1	1	1	1	1
ine	1	1	1	1	1
ryland					
ss.				1	
chigan	2	1	1	2	2
nnesota					
sissippi					
souri	2	2	2	3	1
ntana					
raska		1		1	2
ada		1			

	Higher Education	R. I. E.	Disadvantaged	Historical	Pace Setters 66
H.					
.			2	1	
M.					
.	6	8	7	7	6
C.	1	1	1	2	2
D.					
	2	3	4	2	2
.	4	3	4	3	5
on					
.	4		2	6	5
.					
.					
.	1	2	3	3	3
s	2	3	3	5	5
		1	1	1	1
nont					
nia			1		
.		1	3	1	2
a.					
.	1	1		1	1
hing	1			2	1
. .	1		1		
ito- & Pos. gn	1				
	42	42	57	61	54

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NUMBER OF MICROFICHE COLLECTION TITLES PURCHASED
BY USERS IN EACH CATEGORY

User Category	Type of Collection					
	Higher Education	R. I. E.	Disadvantaged	Historical	Pace Setters 66	Total
Institutions of Higher Education	30, 420	190, 495	82, 062	58, 272	49, 450	410, 699
State Agencies	845	6, 145	1, 746	3, 642	1, 075	13, 453
Local School Units	3, 380	55, 305	12, 222	8, 498	6, 450	85, 855
Commercial Organizations		6, 145	3, 492	2, 428	1, 075	13, 140
Non-Profit Organizations						
Professional Associations and Foundations						
Federal						
Individuals						
Foreign						
Miscellaneous	845			1, 214		2, 059
Regional Educational Laboratories						
HEW R & D Centers						
TOTALS	35, 490	258, 090	99, 522	74, 054	58, 050	525, 206

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Table VIId

NUMBER OF MICROFICHE COLLECTION TITLES PURCHASED BY USERS IN EACH STATE

	Type of Collection					
	Higher Education	R. I. E.	Disadvantaged	Historical	Pace Setters 66	Total
na						
a						
as						
nia	5,075	24,580	10,476′	8,498	6,450	55,074
do						
			3,492	1,214	1,075	5,781
re						
a	2,535	18,435	6,984	2,428	2,150	32,532
a		12,290	3,492	2,428	2,150	20,360
	845	12,290	3,492	2,428	1,075	20,130
			1,746			1,746
	845		1,746			2,591
	845	6,145	1,746	2,428	2,150	13,314
y			1,746	2,428		4,174
na	845	6,145	1,746	1,214	1,075	11,025
	845	6,145	1,746	1,214	1,075	11,025
d						
				1,214		1,214
n	1,690	6,145	1,746	2,428	2,150	14,159
ta						
ippi						
i	1,690	12,290	3,492	3,642	1,075	22,189
a		6,145		1,214	2,150	9,509
		6,145				6,145

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te	Higher Education	R. I. E.	Disadvantaged	Historical	Pace Setters 66	Total
H.						
J.			3,492	1,214		4,706
M.						
Y.	5,070	49,160	12,222	8,498	6,450	81,400
C.	845	6,145	1,746	2,428	2,150	13,314
D.						
io	1,690	18,435	6,984	2,428	2,150	31,687
la.	3,380	18,435	6,984	3,642	5,375	37,816
egon						
nn.	3,380		3,492	7,284	5,375	19,531
I.						
C.						
D.						
nn.	845	12,290	5,238	3,642	3,225	25,240
kas	1,690	18,435	5,238	6,070	5,375	36,808
h		6,145	1,746	1,214	1,075	10,180
rmont						
ginia			1,746			1,746
sh.		6,145	5,238	1,214	2,150	14,747
Va.						
consin	845	6,145		1,214	1,075	9,279
oming	845			2,428	1,075	4,348
C.	845		1,746			2,591
s. & rit.	845					845
eign						
al	35,490	258,090	99,522	74,054	58,050	525,206

VIII. STANDING ORDERS FOR ERIC MICROFICHE

Using the classification developed under Item I, each organ-
ation having a current standing order for the microfiche indexed
the monthly RIE bulletin was classified according to user cate-
ory. They were further divided on the basis of whether their
bscription to RIE was paid by their organization or whether it
as supplied free by the Office of Education. The results of this
assification procedure are presented in Table VIIIa.

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Table VIII

NUMBER AND PERCENT OF ORGANIZATIONS WITH A PAID OR FREE RIE SUBSCRIPTION IN EACH USER CATEGORY HAVING A STANDING ORDER FOR ERIC MICROFICHE

User Category	Paid Subscription		Free Subscription	
	No.	Percent	No.	Percent
Institutions of Higher Ed.	85	73.9	13	21.7
State Agencies	8	7.0		
Local School Units	15	13.0		
Commercial Organizations	3	2.6	1	1.7
Non-Profit Organizations	1	.9	7	11.7
Professional Associations and Foundations				
Federal			19	31.6
Individuals				
Foreign				
Miscellaneous	3	2.6		
Regional Labs.			20	33.3
HEW R&D Centers				
Total	115	100.0	60	100.0

APPENDIX A

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ERIC SURVEY INTERVIEW LIST

al School Districts (15)	Outcome
Robert E. Stephens I. N. C. Dir. erial Schools Grove St. adena, California 91105	Interviewed
s D. Heller tra-Costa County artment of Education Santa Barbara Rd. asant Hill, California 94523	Interviewed
. Beryl Erickson rdinator, Library Services Mateo County Board of Education Hamilton St. wood City, California	Frank Mattas Consultant, Information and Dissemination Interviewed
. Violet L. Wagener, Director e III Resources Center lder Valley Public Schools O. Box L86 lder, Colorado 80301	Interviewed
s Mona Coe, Head Librarian e County Public Schools 0 N. E. 2nd Ave. Room 800 mi, Florida 33132	Gustav Adams Interviewed
fessional Library 8 Schools Center 7 Woodward Ave. roit, Michigan 48202	Charles Partridge Interviewed
Sanford Glovinsky yne County Intermediate School District Assist Center 30 Van Born Road yne, Michigan 48184	Not Available
Jack Weinstein, Dir. Lib. Ser. School District Hoffman St. nira, New York 14905	No Response

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Robert Lamitie, Director ject Innovation California Dr. iamsville, New York 14221	No Response
ky Mount City Schools lementary Education Center By-Pass South D. Box 1424 y Mount, N. C. 27801	No Response
Lester Mann arch and Information Services South Gulph Road of Prussia, Penn. 19406	David Spaans Interviewed
ol District of Philadelphia d of Education Street S. of the Parkway delphia, Penn. 19103 Pedagogical Library)	Sidney August Interviewed
y County Board of Education Box 30166 rt Mail Facility his, Tenn. 38130	No Response
e County Educational Services Center Box 1568 . Front St. Upstairs e, Texas 77630	No Response
. E. King, Coordinator x County Public Schools Page Ave. x, Virginia 22030	No Response

Agencies (6)

Department of Education 455, Curriculum Laboratory pital Mall nento, California 95814	Dr. John Church Interviewed

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Dr. Richard K. McKay Maryland State Dept. of Education 201 West Preston St. Baltimore, Maryland 21201	Dr. Melvin L. Self Interviewed
H. B. Rung State Department of Education th Floor Jefferson Building efferson City, Missouri 65101	Glenn White Interviewed
epartment of Education tate of New Mexico apitol Building anta Fe, New Mexico 87501	Mr. Redemer Interviewed
rs. Gladys Ingle, Librarian ducation Information Library epartment of Public Instruction aleigh, North Carolina 27601	Interviewed
lma Winton, Librarian epartment of Public Instruction zra Lehman Memorial Library ippensburg, Penn.	Rose Bower Interviewed

gional Educational Laboratories (3)

. John Hemphill e Far West Laboratory for Educational Research and Development aremont Hotel Garden Circle rkeley, California 94705	Sandra Crosby Interviewed
s. Verna Smith ntral Midwestern Regional Educational Laboratory 48 St. Charles Rock Road Ann, Missouri 63074	Miss Terril Interviewed
William Young higan-Ohio Regional Educational Laboratory 0 Woodward Avenue - Room 1403 roit, Michigan 48201	George Grimes Interviewed

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gher Education (12)

s. Laurie Robinson
quisition Librarian
Diego State College
Diego, California 92115

Gordon Samples
Interviewed

ssie McElveen
rarian
orgia Southern College Library
esboro, Georgia 30458

No Response

s. Elma Ballou
ials Librarian
thern Illinois University
bondale, Illinois 62901

Ruth Banner
Interviewed

uments Depository
mond H. Fogler Library
ersity of Maine
no, Maine 04473

No Response

Robert F. Huffman
uisitions Library
cation for Service
ral Missouri State College
rensburg, Missouri 64093

Doris Brookshier
Interviewed

Helen P. Ravin
, Acquisition Dept.
I. Butler Library
University College at Buffalo
Elmwood Ave.
lo, New York 14222

Not Available

A. LaVerdi
Library
University College
co, New York 14454

Interviewed

L. Edgar
s Dept.
State University
Ohio 44240

Interviewed

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W. Logsdon erence Librarian ahoma State University University Library lwater, Oklahoma 74074	Marguerite Howland Interviewed
n B. Lalley, Librarian np Library t Stroudsburg State College t Stroudsburg, Penn. 18301	No Response
rary t Texas State University t Texas Station nmerce, Texas 75428	Joyce Hanes Interviewed
uisitions on Library tern Washington State College ingham, Washington	Mrs. Rahmes Interviewed

cellaneous (4)

arian nomic Systems Corporation nd Spring, Maine 04274	Jean Josselyn Interviewed
eral Electric Corporation ier Job Corps Center on, New Jersey 08817 ttn: Bldg. 1709 (2058) 100358-OEO	No Response
John B. Carroll er for Psychological Studies ational Testing Service ceton, N. J. 08540	Not Available
ary x Education Division Madison Ave. York, N. Y.	Not Available

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Appendix B

MATERIALS USED IN THE ERIC TELEPHONE SURVEY

Two versions of the letter and the response form were prepared. One set indicated that telephone contact would be made on July 29 and the other on July 30. Twenty of each were used. Appended here is a copy of one of these versions.

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AMERICAN INSTITUTES FOR RESEARCH
WASHINGTON OFFICES

Address: 8555 Sixteenth Street, Silver Spring, Maryland 20910
Telephone: (301) 587-8201

July 18, 1968

ear Sir:

We are performing a study to determine the usage by staff of your
ganization and by persons or groups you serve of: (1) standing microfiche
ders from Research in Education (RIE), the monthly abstract journal
blished by the U. S. Department of Health, Education, and Welfare and
) ERIC microfiche which you purchased from the ERIC Document
eproduction Service (EDRS).

We would like to contact you by telephone on Monday, July 29 to
scuss the usage of these materials. In order to facilitate the data
llection we are including a list of questions to which you might like
prepare answers in advance.

Should you not be available on the above date or if you feel a colleague
uld be of greater assistance to us, would you kindly indicate so on the
closed form and return it to us in the envelope provided.

Your cooperation and contribution in this regard will be greatly
preciated. If you desire additional information about the survey call me
(301) 587-8201.

Sincerely,

Arthur L. Korotkin

Arthur L. Korotkin, Ph. D.
Project Director

LK/gw
closures

Corporate Office • 135 N. Bellefield Avenue, Pittsburgh, Pennsylvania 15213 • (412) 683-7600

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American Institutes for Research

ERIC Survey

☐ I will be available for the telephone interview on Monday, July 29 and may be contacted at ______________(telephone number).

☐ I suggest that you contact ________________________(name), a colleague of mine, who will be able to provide more pertinent information. He is aware of the questions to be discussed and may be contacted at ______________(telephone number).

☐ I shall not be available for the telephone interview on the date suggested. The earliest alternate date on which I will be available to discuss these questions is ______________(date). I may be contacted at ______________(telephone number).

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ERIC Survey Questions

1. When (month and year) did you first acquire ERIC materials in your library?

What ERIC Indexes do you have? See enclosed brochure for a list of ERIC announcement bulletins or indexes.

Do you have any ERIC microfiche, either individual documents or full sets of microfiche listed on the enclosed sheets (EDRS order form)?

How did you first learn about ERIC materials?

When were the materials first made available to the users? (date)

How are the materials made available to the users? - is an index or abstract service used?

How are the materials publicized?

How frequently are the Indexes used? - Estimate times used in a "typical" week.

Are there any identifiable trends in the usage of the materials? - has there been an increase or decrease? - can this be explained?

Who are the users of the ERIC materials? - staff? - teachers? - researchers? - administrators? - students? Can you estimate proportions among these user groups?

For what purposes are these materials used? - for research projects? - in teaching? - administrative purposes? - to generally keep abreast of the literature?

Any comments you would like to pass on to the Office of Education?